adc

croatian dermatovenerological society

ACTA DERMATO VENEROLOGICA CROATICA

CODEN ADCREK

VOLUME 11 – NUMBER 2 – 2003

ISSN 1330-027X

ACTA DERMATOVENEROLOGICA CROATICA

VOLUME 11– NUMBER 2 – 2003

CONTENTS

ISSN 1330-027X Zagreb, 2003

Indexed in EMBASE/Excerpta medica, Index Medicus/MEDLINE

ACTA DERMATOVENEROLOGICA CROATICA

OFFICIAL JOURNAL OF THE CROATIAN DERMATOVENEROLOGICAL SOCIETY

Editorial Office

Acta Dermatovenerologica Croatica
Department of Dermatology and Venerology
Zagreb University Hospital Center
Šalata 4, 10000 Zagreb, Croatia
Phone/Fax: +385-1-4920 014
E-mail: *jasna.lipozencic@zg.tel.hr*

Business correspondence

Medicinska naklada, Vlaška 69, 10000 Zagreb, Croatia;
www.medicinska.naklada.hr

Aims and Scope

Acta Dermatovenerologica Croatica (ADC) aims to provide dermatologists with up-to-date information on all aspects of the diagnosis and management of skin and venereal diseases. Accepted articles regularly include original scientific articles, short scientific communications, clinical articles, case reports, reviews, reports, news and correspondence. ADC is guided by a distinguished, international editorial board and encourages approach to continuing medical education for dermatovenerologists.

ADC is published quarterly. ADC is the official journal of the Croatian Dermatovenerological Society, and is indexed by EMBASE/Excerpta Medica and Index Medicus/MEDLINE (ISSN 1330-027X).

Subscriptions

Subscriptions are accepted on a prepaid basis only and are entered on a calendar year basis. Subscription price per volume is 60 EUR or equivalent in other currency. The subscription for the members of Croatian Dermatovenerological Society is included in the membership fee. All renewals, orders, claims and general enquiries should be sent to: Editorial Office, Acta Dermatovenerologica Croatica, Department of Dermatology and Venerology, Zagreb University Hospital Center, Šalata 4, 10000 Zagreb, Croatia; Phone/Fax: +385-1-4920 014

E-mail: *jasna.lipozencic@zg.tel.hr.*

Orders can be placed to the Editorial Office and paid to Croatian Medical Association, Zagrebačka banka, account number 2360000-1000000013 70300-840-3271676 (for orders from abroad in foreign currency), or to the Croatian Medical Association, account number 2360000-1101214818 (Zagrebačka banka); poziv na broj: 268-3-1 (for orders from Croatia in HRK).

Priority rates are available upon request.

Advertising information

Advertising orders or enquiries may be sent to the Editorial Office.

Dispatch

ADC is dispatched within the Croatia and Europe by second class post, and to other Continents by various form of air-speeded delivery.

Paper

The Publisher's policy is to use acid-free permanent paper.

Information on the Journal can be accessed at *http://www.mef.hr/derma/adc*

Acta Dermatovenerol Croat 2003;11(2):65-69 SHORT SCIENTIFIC COMMUNICATION

Effect of Naphthalan on Epidermal Proliferation Activity and CD3, CD4, and CD8 Lymphocyte Count

Pero Vržogić, Jasminka Jakić-Razumović[1], Aida Pašić[2]

Naftalan Special Hospital for Medical Rehabilitation, Ivanić Grad; [1]Department of Pathology and [2]Department of Dermatology and Venerology, Zagreb University Hospital Center, Zagreb, Croatia

Corresponding author:

Pero Vržogić, M.D.

Naftalan Special Hospital for Medical Rehabilitation

Omladinska 23

10310 Ivanić Grad, Croatia

Received: 20. 12. 2002.
Accepted: 28. 02. 2003.

SUMMARY Immunohistochemistry analysis by cell immunophenotyping before and after a 3-week treatment with naphthalan oil was performed on biopsy specimens from 10 patients with psoriasis vulgaris. For immunohistochemistry staining of 3-µm paraffin block sections, anti-CD3, anti-CD4, anti-CD8, and Ki-67 antibodies were used. Peroxidase reaction for T cell (CD3, CD4, and CD8) quantification was done in the epidermis and dermis of each skin sample as total positive cell count *per* mm sample. Positive Ki-67 (proliferation index) was determined as percentage of positive cells per 100 cells in the basal layer of the epidermis. Results showed naphthalan treatment to decrease the mean CD3 lymphocyte count by 83% and 59%, CD4 lymphocyte count by 81% and 73%, and CD8 lymphocyte count by 60% and 49% in the epidermis and dermis, respectively. The mean proliferation index also decreased with naphthalan therapy.

KEY WORDS: baths; dermatologic agents; immunohistochemistry; Ki-67 antigen; psoriasis

INTRODUCTION

Naphthalan, a natural naphthene-based earth oil, is a thick, dark-brown liquid of a characteristic aromatic odor. In contrast to other related oils, it has a high specific weight (0.93-0.97) and mostly contains compounds with stearic structure. Therapeutic properties of naphthalan have been known since ancient times (1). The antipsoriatic properties of heavy naphthene oil (Naphthalan®) make the basis of antipsoriatic treatment regimen that has been successfully used over the last decade at the Naftalan Special Hospital, Ivanić Grad, Croatia (2).

Vulgar psoriasis is a chronic relapsing skin disease affecting 1-3% of the total population worldwide. The disease is characterized by precipitated epidermopoiesis, with consequential formation of scales on the skin and scalp and specific nail lesions. Psoriatic arthritis develops in 3-5% of psoriasis patients (2,3). In Croatia, 1-2% of the population

Acta Dermatovenerol Croat
2003;11(2):65-69

is affected with psoriasis, whereas psoriatic patients account for 6-8% of all patients treated at departments of dermatology (3). Psoriasis shows familial clustering and affects consecutive generations.

There is a novel concept in the pathogenesis of psoriasis, demonstrating the characteristic and well known psoriasiform epidermal hyperplasia to be a secondary lesion in the sequence of pathogenetic events in psoriasis, caused by migration of the inflammatory infiltrate cells from the dermis to the epidermis, whereby T-cells (CD8) play an important role (4,5). On entering the epidermis, these cells produce substances that stimulate mitotic activity within the epidermis, thus leading to psoriatic epidermal hyperplasia (4). This concept has drawn attention to the fact that, in addition to the known factors (genetic and other impacts), certain immune mechanisms also have an important role in the development of psoriatic lesion.

NAPHTHALAN – BACKGROUND

Naphthalan has long been known for its medicinal properties (1), and many great dermatologists have recommend its use. In his book "Dermatologic propedeutics", in the chapter on ointments, Professor F. Kogoj, the greatest Croatian dermatologist, mentions Naphthalan as a medicinal product for the treatment of squamous dermatoses (6). Russian literature contains many data from Baku, Azerbaijan, on the treatment of psoriasis and neurodermatitis with naphthalan. The physicochemical analyses of naphthalan found on the Križ oil field near Ivanić Grad have shown it to be identical to naphthalan from Baku, Azerbaijan, which has been used in the treatment of vulgar psoriasis from the beginning of the 20th century. The more so, naphthalan from Ivanić Grad is superior to that from Baku for the higher level of purification, which can be achieved by the modern chemical and technological procedures of naphthene oil fractionation at the Industrija Nafte (INA) – Naftaplin chemistry laboratories (2). Naphthalan from Ivanić Grad contains negligible concentrations of cyclic compounds and light oil fractions, which may potentially have unfavorable toxic or carcinogenic effects.

Naphthalan is classified among so-called heavy oils because of its high specific weight. It contains very low concentrations of light benzine, ligroine, and kerosene fractions, whereas condensed paraffins are only found in traces or not at all. Naphthalan also differs from other oils by its relatively high concentration of naphthene and cyclopentane acids. Naphthalan oil is characterized by a high percentage of naphthene carbohydrates of the cyclopentanohydrophenanthrene structure, the most important of them being isoprenes, steranes, and triterpenes.

Naphthalan therapy as a method of treatment for vulgar psoriasis is performed in the form of naphthalan baths. The patient spends 12-14 min immersed up to the shoulders in the naphthalan bath at a bath temperature of 34-36°C. After the bath, the patient takes a shower to wash the remaining naphthalan off the skin. During the day, naphthalan cream is locally applied onto psoriatic lesions for 2 hours. Naphthalan therapy is performed daily, six days a week, for three consecutive weeks (2).

MATERIAL AND METHODS

Biopsy specimens obtained from skin lesions of 10 patients with psoriasis vulgaris were analyzed immunohistochemically (cell immunophenotyping) before and after a 3-week treatment with naphthalan oil. Study group included five women and five men with psoriasis vulgaris. For immunohistochemical staining of 3-μm paraffin block sections, anti-CD3, anti-CD4, anti-CD8, and Ki-67 antibodies were used (Dako, Copenhagen, Denmark). Sections were incubated for 30 min at room temperature with primary antibody at a proper dilution for each antibody. After washing, the sections were stained with biotinylated multi-link (swine, anti-rabbit, mouse, and goat immunoglobulin) (Dako) at a 1:1000 dilution, followed by staining with streptavidin-biotin-peroxidase complex (Dako) at a 1:1000 dilution.

Peroxidase reaction was developed with diaminobenzidine (DAB) as a chromogen (Dako). The sections were contras-stained with hematoxylin and embedded in a synthetic medium (DPX).

T cell (CD3, CD4, and CD8 subsets) quantification was done for the epidermis and dermis of each skin sample as total positive cell count *per* mm sample. Positive Ki-67 (proliferation index) was deter-

Table 1. Epidermal proliferation activity and CD3, CD4, and CD8 lymphocyte counts in 10 psoriatic patients before and after the treatment with naphthalan*

		Naphthalan therapy									
		before					after				
No.	Patient initials	CD3	CD4	CD8	F8	Ki-67 (%)	CD3	CD4	CD8	F8	Ki-67 (%)
1.	PM	E 30	E 21	E 8	20	38	E 3	E 0	E 4	10	16
		D 110	D 82	D 37 7.			D 15	D 0	D 20		
2.	GA	E 23	E 12	E 5	11	29	E 0	E 2	E 1	6	5
		D 58	D 42	D 21			D 21	D 20	D 9		
3.	SM	E 6	E 5	E 2	9	36	E 2	E 2	E 1	4	8
		D 31	D 28	D 15			D 16	D 12	D 8		
4.	ČK	E 3	E 4	E 1	10	42	E 0	E 2	E 0	7	5
		D 24	D 21	D 8			D 18	D 14	D 9		
5.	PA	E 18	E 5	E 11	13	21	E 2	E 2	E 2	7	4
		D 20	D 24	D 6			D 12	D 15	D 5		
6.	OA	E 8	E 4	E 2	25	15	E 2	E 1	E 1	12	5
		D 62	D 42	D 25			D 32	D 10	D 15		
7.	BM	E 8	E 4	E 4	12	12	E 2	E 1	E 2	5	4
		D 28	D 18	D 18			D 8	D 6	D 12		
8.	PM	E 5	E 4	E 0	19	18	E 1	E 0	E 0	8	2
		D 58	D 30	D 18			D 32	D 12	D 13		
9.	TS	E 7	E 4	E 8	22	47	E 2	E 1	E 2	5	12
		D 42	D 48	D 8			D 22	D 2	D 25		
10.	GS	E 4	E 2	E 3	10	36	E 5	E 1	E 5	6	10
		D 59	D 21	D 32			D 28	D 6	D 18		

*Abbreviations: CD3 – lymphocytes; CD4 – T helper lymphocytes; CD8 – suppressor/cytotoxic lymphocytes; F8=Ki-67 – proliferation index; E – epidermis; D – dermis.

mined as a percentage of positive cells *per* 100 cells in the basal layer of the epidermis.

RESULTS

The mean proliferation index value was 29.4% (range, 12-47%) and 7.1% (range, 2-16%) before and after naphthalan treatment, respectively (Fig. 1, Table 1).

The mean CD3 lymphocyte count before naphthalan treatment was 11.2 (range, 3-30) in the epidermis, and 49.2 (range, 20-110) in the dermis (Figs. 2 and 3). After naphthalan treatment, it was 1.9 (range, 0-5) in the epidermis and 20.4 (range, 15-28) in the dermis, yielding a decrease by 83% and 59%, respectively (Figs. 2 and 3).

The mean CD4 lymphocyte count was 35.6 (range, 21-42) in the dermis, and 6.5 in epidermis before naphthalan treatment. After naphthalan treatment, it was 1.2 (range, 0-2) in the epidermis and 9.7 (range, 0-20) in the dermis, showing a decrease by 81% and 73%, respectively (Figs. 4 and 5).

The mean CD8 lymphocyte count before naphthalan treatment was 4.4 (range, 2-11) in the epi-

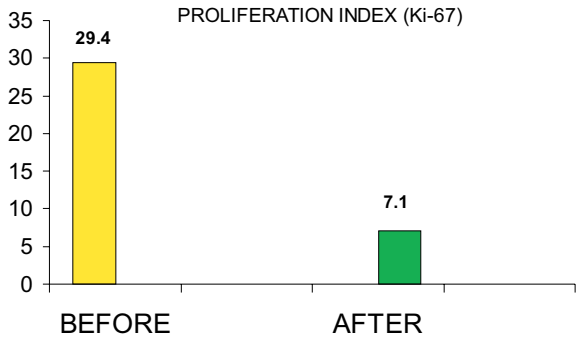


Figure 1. Mean proliferation index value before and after naphtalan therapy in psoriatic patients.

Acta Dermatovenerol Croat
2003;11(2):65-69

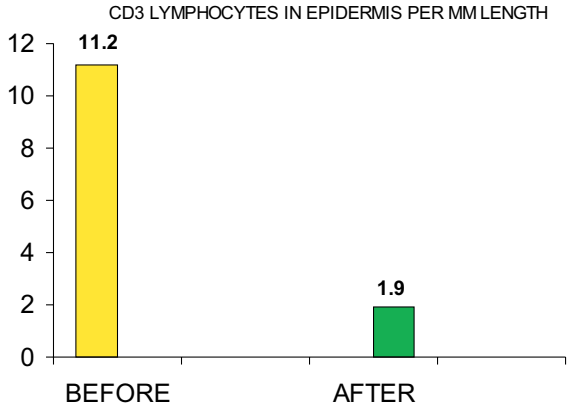


Figure 2. CD3 lymphocytes count in the epidermis before and after naphthalan therapy.

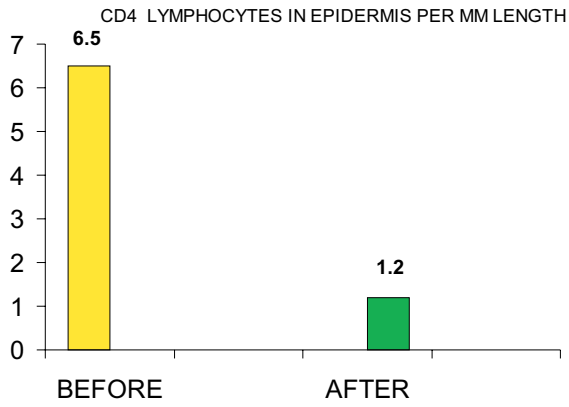


Figure 4. CD4 lymphocytes count in the epidermis before and after naphthalan therapy.

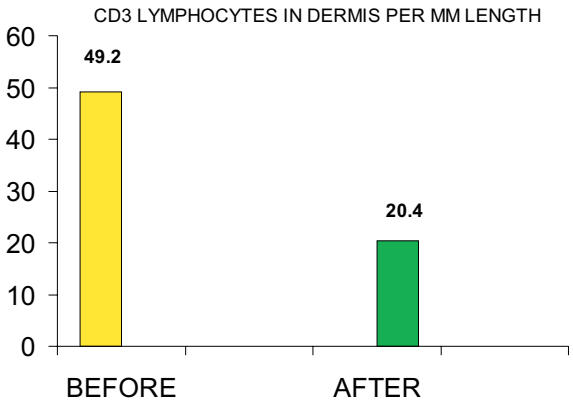


Figure 3. CD3 lymphocytes count in the dermis before and after naphthalan therapy.

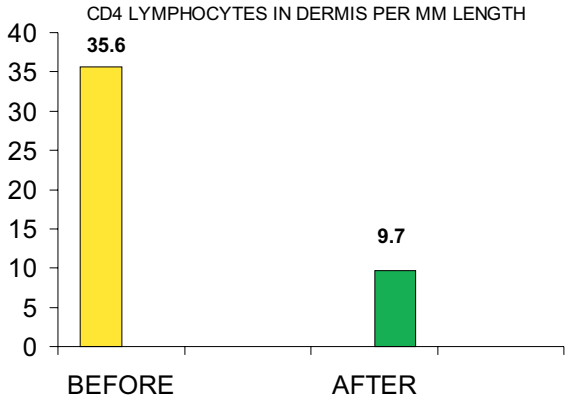


Figure 5. CD4 lymphocytes count in the dermis before and after naphtalan therapy.

dermis and 21.8 (range, 8-37) in the dermis. After naphthalan treatment, the respective values were 1.8 (range, 0-5) and 13.4 (range, 8-25), yielding a decrease by 60% and 49%, respectively (Figs. 6 and 7).

The results of our investigation showed a decrease in CD3, CD4, and CD8 lymphocyte count and pronounced decrease in proliferation index of keratinocytes, Ki-67, in the basal layer of psoriatic skin after naphthalan therapy.

DISCUSSION

Epidermal changes in psoriasis induced by an altered differentiation program of the keratinocytes develop along with profound hyperproliferation, acanthosis, parakeratosis, and disappearance of granular layer. Abnormal proliferation is the result of an increased number of germinative keratinocytes *per* skin surface area (4), accelerated cell cycle (5), and increased recruitment of actively cycling lymphocytes from a resting pool (5).

Consequently, normalization of these processes may positively influence the course of the disease. Since both markers are up-regulated by naphthalan, it can be postulated that naphthalan can induce keratinocyte differentiation (7). Naphthalan strongly inhibits the proliferation of keratinocytes (7).

Our results showed the decrease in the mean CD3, CD4, and CD8 lymphocyte count as well as in the mean proliferation index in the basal layer after naphthalan treatment. These findings indicated an antiproliferative activity of naphthalan in psoriatic lesions.

Acta Dermatovenerol Croat
2003;11(2):65-69

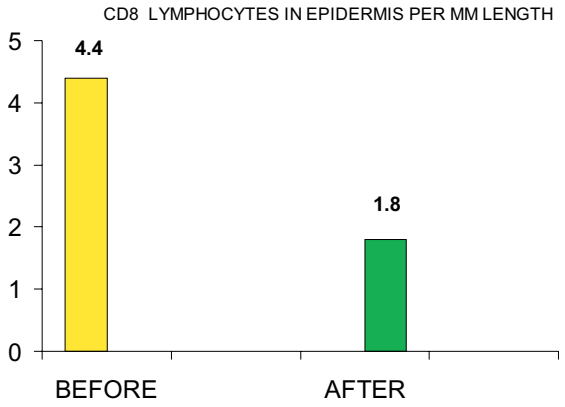


Figure 6. CD8 lymphocytes count in the epidermis before and after naphtalan therapy.

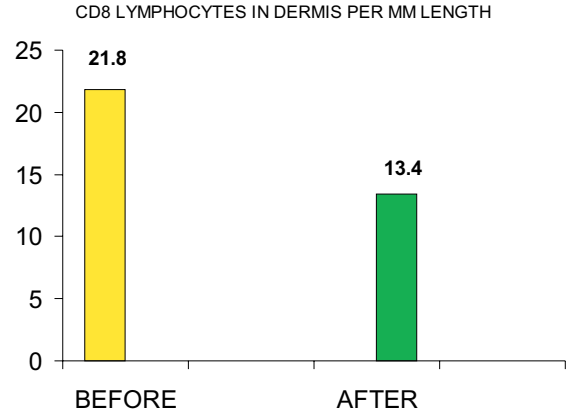


Figure 7. CD8 lymphocytes count in the dermis before and after naphtalan therapy.

In conclusion, the value of proliferation index and immunocompetent cell counts after naphthalan treatment indicated an antiproliferative activity of naphthalan and its ability to decrease the immunocompetent cell counts in psoriatic lesions. In this way, naphthalan treatment reduced epidermal hyperplasia and decreased the rate of epidermopoiesis in patients with vulgar psoriasis.

Acknowledgment

The authors are grateful to Professor Jasna Lipozenčić, M.D., Ph.D. for scientific assistance, and Mrs Gordana Dučkić for technical help.

References

1 Polo M. Il milione,1298; cited according to Knust TA. Von Venedig nach China. Darmstadt: Wissenschaftliche Buchgesellschaft; 1996.

2 Krnjević-Pezić G, Vržogić P, Ostrogović Ž, Smeh-Skrbin A, Dobrić I. Some haematological and biochemical parameters in psoriatic patients treated with naphthalan. Acta Dermatovenerol Croat 1997;5:49-53.

3 Barišić-Druško V, Paljan D, Kansky A, Vujasinović S. Prevalence of psoriasis in Croatia. Acta Derm Venereol 1989; 146 Suppl:178-9.

4 van Scott EJ, Ekel T. Kinetics of hyperplasia in psoriasis. Arch Dermatol 1963;88:373-80.

5 Weinstein GD, van Scott EJ. Autoradiographic analysis of turnover times of normal and psoriatic dermis. J Invest Dermatol 1965;45:257-62.

6 Kogoj F. Dermatovenerološka propedeutika. Zagreb: Nakladni zavod Hrvatske; 1954.

7 Thaçi D, Schindewolf M, Smeh-Skrbin A, Krnjević-Pezić G, Vržogić P, Dobrić I, et al. Heavy naphthen oil exhibits antipsoriatic efficacy in vivo and antiproliferative as well as differentiation-inducing effects on keratinocytes in vitro. Arch Dermatol 2000;136:678-9.

Acta Dermatovenerol Croat 2003;11(2):70-74 CLINICAL ARTICLE

Correlation of Clinical Symptoms and Laboratory Findings in Children With Milk Allergy

Ana Votava-Raić, Duška Tješić-Drinković, Sven Seiwerth, Lana Mađerčić, Vladimir Krajinović

Department of Pediatric Gastroenterology and Nutrition, Zagreb University Hospital Center, Zagreb, Croatia

Corresponding author:

Duška Tješić-Drinković, M.D., Ph.D.

Department of Pediatric Gastroenterology and Nutrition

Zagreb University Hospital Center

Šalata 4

10000 Zagreb, Croatia

duska.tjesic-drinkovic@zg.tel.hr

Received: 10. 02. 2003.
Accepted: 10. 04. 2003.

SUMMARY Food hypersensitivities can be divided into toxic and nontoxic, and the latter can further be subdivided into immune and nonimmune hypersensitivities. Cow's milk allergy or intolerance occurs in 5-15% of infants, mostly during the first year of life, or occasionally later. The symptoms may involve different organ systems, especially the gastrointestinal system, skin, and respiratory system. For the diagnosis of cow's milk protein allergy/intolerance, double-blind, placebo-controlled food challenge has been used as a gold standard. Since the test suffers from some drawbacks, many reports have pointed to the need for novel and simpler diagnostic procedures and criteria. In our study, clinical symptoms and laboratory findings of patients with cow's milk protein allergy were compared to assess the possible correlation between particular laboratory findings, clinical picture, and the organ system predominantly involved. There were no significant differences in the levels of IgE, cow's milk protein specific IgE, eosinophilia, prick test results, rectal mucosa biopsy histology, and atopy incidence in patient families among the children with gastrointestinal, cutaneous, and combined gastrointestinal and cutaneous symptoms. Improvement in the symptoms with dietary therapy irrespective of clinical presentation and type of hypersensitivity underlying the symptoms in all these patients strongly suggests that clinical response should be a basic criterion for the diagnosis of cow's milk protein allergy.

KEY WORDS allergens; diet therapy; double-blind method; immunoglobulin E; infant; infant, newborn; milk hypersensitivity

INTRODUCTION

According to the latest classifications, food hypersensitivities are divided into toxic and nontoxic (1). Toxic hypersensitivity occurs consequentially to the action of food ingredients or food contaminants, whereas nontoxic hypersensitivities depend on the body's susceptibility and can be subdivided into immune (food allergy) and nonimmune (food intolerance) hypersensitivities. Thus, cow's

milk allergy may present either as allergy or as intolerance. Since it is difficult to differentiate between the two entities clinically, the diagnosis usually includes both, cow's milk protein intolerance (CMPI)/cow's milk protein allergy (CMPA). It is known that cow's milk contains many antigenic components. Some allergenic proteins, especially β-lactoglobulin, α-lactalbulmin, and some fractions of casein (as major allergenic proteins of cow's milk) are responsible for symptoms of cow's milk allergy (2). The symptoms of CMPA occur in 5-15% of infants. However, if diagnostic criteria are strictly followed, the real incidence is 2-3% (3). Cow's milk allergy usually occurs in the first year of life, with a median age at diagnosis of seven months (4). The symptoms may vary, primarily involving the gastrointestinal system, skin, and respiratory system (2,5). It is evident that 30-60% of infants involved have skin manifestations – labial edema (so-called oral allergic syndrome), perianal edema and erythema, and many different skin eruptions (urticaria or rush) (6). About 20-30% of children with cow's milk allergy have some respiratory symptoms (e.g., asthma). It is estimated that 30-50% of children have gastrointestinal symptoms (e.g., enterocolitis). Immune food reactions that may be mediated exclusively by class E immunoglobulins (IgE), partially IgE mediated, or cell mediated without immunoglobulin involvement seem to be most intriguing for clinicians (7,8). The symptoms are identical or nearly identical irrespective of the underlying immune mechanism, although the time from challenge to onset varies. Thus, the IgE-mediated reactions are characterized by a rapid onset (up to 40 minutes from challenge), mixed reactions occur between one and 20 hours from challenge, whereas those mediated by the cellular immunity mechanisms develop after more than 20 hours from the contact with allergen (1,2,9).

A double-blind, placebo-controlled food challenge is the gold standard for diagnosing cow's milk allergy (2,7,8,10). However, many other parameters and tests can be used as a help in making the diagnosis and will possibly allow the double-blind, placebo-controlled food challenge to be avoided in the future. The findings that need to be obtained for diagnosis include history data, peripheral blood eosinophil count, IgE and specific IgE (RAST), skin tests (skin prick test and patch test), and gastrointestinal system mucosal biopsy.

METHOD AND RESULTS

We analyzed the findings in 39 patients aged 20 days to 3 years (median, 7 months), who were hospitalized at our Department because of cow's milk protein hypersensitivity between 1999 and 2002. Skin symptoms were recorded in eight, gastrointestinal symptoms in 16, and both skin and gastrointestinal symptoms in 15 out of 39 patients. Study patients were divided into three groups: one with the skin manifestations only, one with gastrointestinal manifestations only, and one with both skin and gastrointestinal manifestations. The values of the following laboratory parameters of the three patient groups were compared: eosinophilia (>0.44×10^{12}/L), IgE titer, RAST, eosinophil count per high-power field (HPF) of gastrointestinal mucosa biopsy specimen, skin prick test, and family history data on atopy.

Increased peripheral blood eosinophil count was found in 13%, 44%, and 40% (Fig. 1); increased IgE titer in 63%, 56%, and 53% (Fig. 2); positive specific antibodies to cow's milk protein

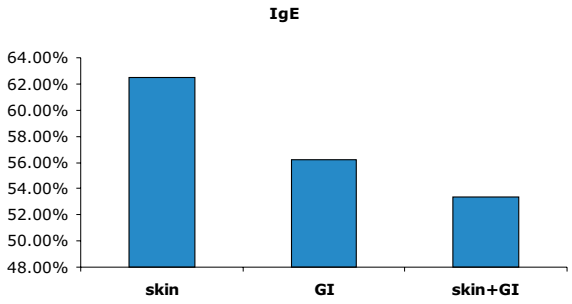


Figure 1. Percentage of patients with eosinophilia >0.44×10^{12}/L according to clinical manifestation of the disease.

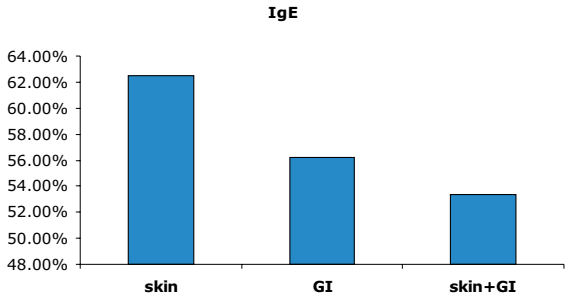


Figure 2. Percentage of patients with increased IgE titer according to clinical manifestation of the disease.

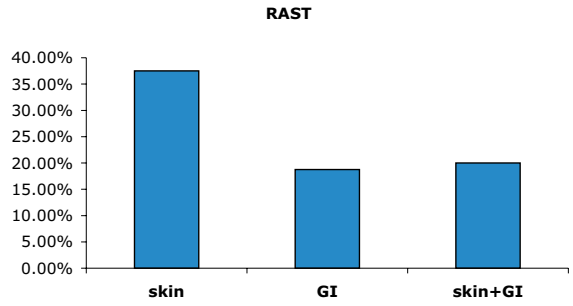


Figure 3. Percentage of patients with positive RAST according to clinical manifestation of the disease.

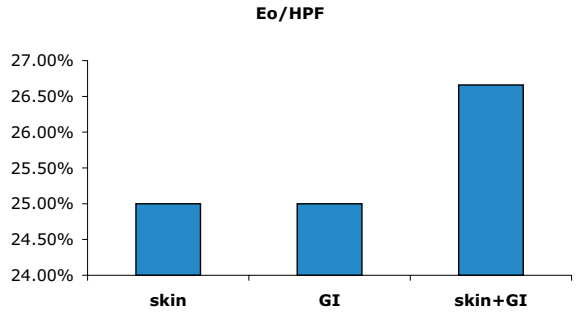


Figure 4. Percentage of patients with increased eosinophil count *per* biopsy high-power field (HPF) according to clinical manifestation of the disease.

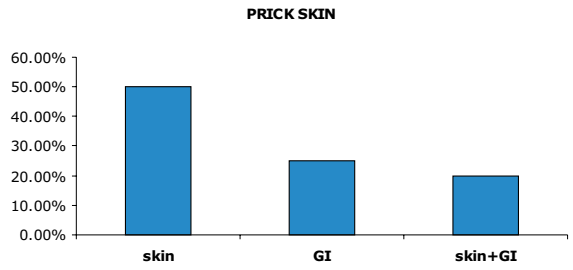


Figure 5. Percentage of patients with positive skin prick test according to clinical manifestation of the disease.

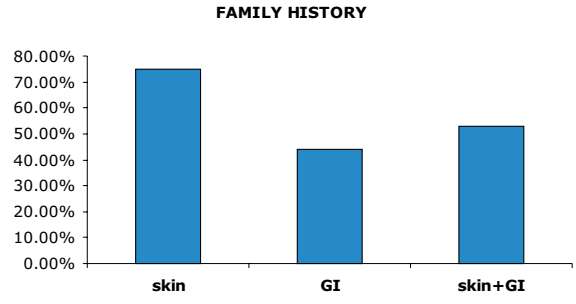


Figure 6. Percentage of patients with positive family history of atopy according to clinical manifestation of the disease.

(RAST) in 38%, 19%, and 20% (Fig. 3); increased eosinophil count per gastrointestinal mucosa biopsy HPF (>20 per HPF) in 25%, 25%, and 27% (Fig. 4); positive skin prick test in 50%, 25%, and 20% (Fig. 5); and positive family history of atopy in 75%, 44%, and 53% (Fig. 6) of patients with cutaneous, gastrointestinal, and both cutaneous and gastrointestinal manifestations, respectively.

In all patients, a dietary regimen free from cow's milk protein was introduced upon clinical examination. In one patient with hypersensitivity that manifested with breast-feeding, the mother excluded cow's milk from her diet.

Soy to cow's milk cross-reactivity was found in 10-35% of patients, which is consistent with other

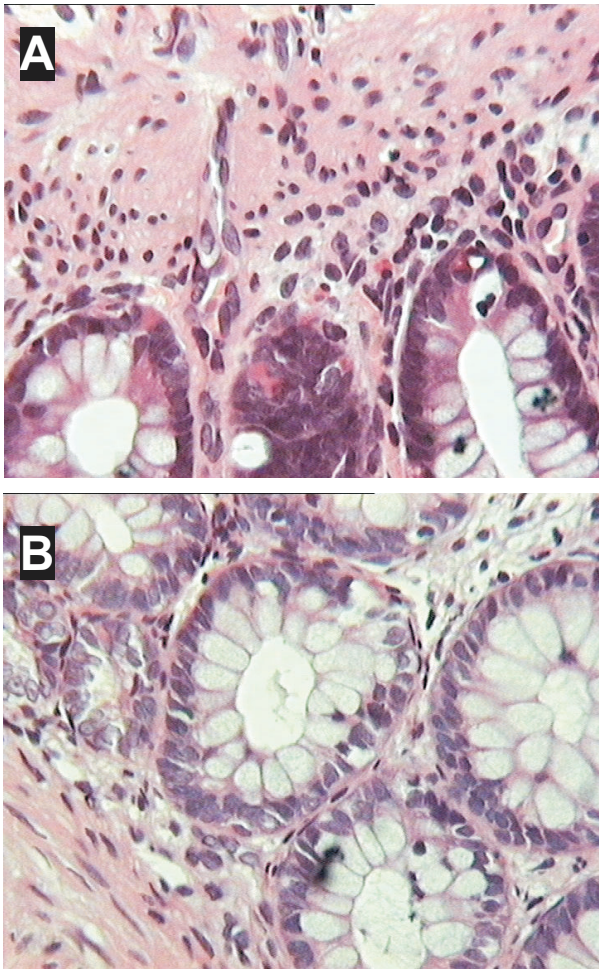


Figure 7. Patient J.M. with gastrointestinal and skin manifestations of cow's milk allergy. Rectal mucosa biopsy: (A) before dietary therapy, rectal mucosa with increased eosinophil count per high-power field; (B) upon introduction of dietary therapy, normal histologic picture of rectal mucosa.

studies (4,10). In our study, nine of 37 patients in whom soy diet was introduced showed soy hypersensitivity and were switched to a protein hydrolysate formula. Most of these patients, i.e. 7 out of 9, were under 6 months of age, which is consistent with other literature reports (4). Clinical remission occurred in 37 out of 39 patients and in some of them remission was also verified by histology of the rectal mucosa biopsy (Fig. 7) (11).

In two patients, the diagnosis was confirmed by provocation test along with rectal mucosa biopsy, whereby the post-challenge biopsy histology corresponded to hypersensitivity.

DISCUSSION

The prevalence of skin, gastrointestinal, and both skin and gastrointestinal symptoms in our patients was consistent with the prevalence found in other studies (2,12). Although performed in a relatively small number of patients, our study clearly showed that there were no significant differences among the three patient groups in any of the parameters examined. Since all study patients responded well to dietary therapy irrespective of the clinical presentation or type of hypersensitivity, and the tests used in the study are characterized by quite a low sensitivity, the clinical response should obviously be considered crucial for making the diagnosis of the disease.

Numerous studies point to the need for a new criterion for the diagnosis of CMPA, because the current gold standard, double-blind placebo-controlled food challenge, suffers from some drawbacks (1,8,13). The procedure is time-consuming and exhausting, requiring hospitalization and physician's surveillance for at least 48 hours. In addition, allergen challenge is associated with the risk of life-threatening anaphylactic reaction. Therefore, we should search for a combination of laboratory and clinical parameters that may facilitate the diagnosis of the condition.

Our results also indicate that there is no difference in the diagnostic procedure according to clinical symptomatology, i.e. to the primary organ system of symptom manifestation. In recent literature, the skin patch test has been described as a valuable diagnostic criterion, either independent or in combination with specific IgE antibodies to cow's milk protein (RAST) (13,14). Since some of these tests are not always available in our setting, we should try to reach such results by combining some other tests.

One of our patients developed allergic reaction upon breast-feeding. History data showed no other route of challenge, and the diagnosis was confirmed by laboratory tests, histology of gastrointestinal mucosa specimens, and challenge test under the controlled hospital conditions. The possibility of cow's milk protein sensitization *via* breast-feeding has been reported, since particular proteins may be small enough to be excreted in human milk (e.g., b-lactoglobulin) (1,2,10,15). However, it seems more likely that a so-called "hidden nursing bottle", with an adequate dose of human milk for primary challenge and antibody production, must have crept into the maternity ward. In this case, the haptens secreted in human milk are adequate to cause reaction in an already sensitized child. Therefore, if hypersensitivity is suspected, even in breast-fed infants, the diagnosis should not be ruled out on the basis of the absence of challenge. The possible allergy due to a single or continuous contact with a low amount of allergen should also be taken into consideration.

The hypoallergenic infant formulas (hydrolysates) are used in treatment as well as prevention of cow's milk protein allergy (1,8,16,17).

References

1 Spergel JM, Pawlowski NA. Food allergy. Mechanisms, diagnosis and management in children. Pediatr Clin North Am 2002;49:73-96.

2 Votava-Raić A, Richter D. Nepodnošljivost hrane i gastrointestinalna alergija. In: Raić F, Votava-Raić A, editors. Pedijatrijska gastroenterologija. Zagreb: Naprijed; 2002. p. 150-6.

3 Host A, Halken S. Epidemiology and prevention of cow's milk allergy. Allergy 1998;53(Suppl 45):111-3.

4 Kemola T, Vanto T. Allergy to soy formula and to extensively hydrolyzed whey formula in infants with cow's milk allergy: a prospective, randomized study with a follow-up to the age of 2. J Pediatr 2002;140:219-24.

5 Burks AW. The spectrum of food hypersensitivity: where does it end? J Pediatr 1998;133:175-6.

6 Novembre E, Vierucci A. Milk allergy/intolerance and atopic dermatitis in infancy and childhood. Allergy 2001;56(Suppl 67):105-8.

7 Sampson H. Food allergy. Part 1: Immunopathogenesis and clinical disorders. J Allergy Clin Immunol 1999; 103:717-27.

8 Sampson H. Food allergy. Part 2: Diagnosis and management. J Allergy Clin Immunol 1999;103:981-9.

9 Ortolani C, Vighi G. Definition of adverse reactions to food. Allergy 1995;50:8-13.

10 Sorensen RU, Porch MC, Tu LC. Food allergy in children. In: Textbook of pediatric nutrition. New York (NY): Raven Press, Ltd.; 1993. p. 457-69.

11 Host A, Halken S, Jacobsen HP, Eastmann A, Mortensen S, Mygil S. The natural course of cow's milk protein intolerance (abstract). J Allergy Clin Immunol 1997;99:S490.

12 Host A, Halken S. A prospective study of cow's milk allergy in Danish infants during the first 3 years of life. Allergy 1990;45:587-96.

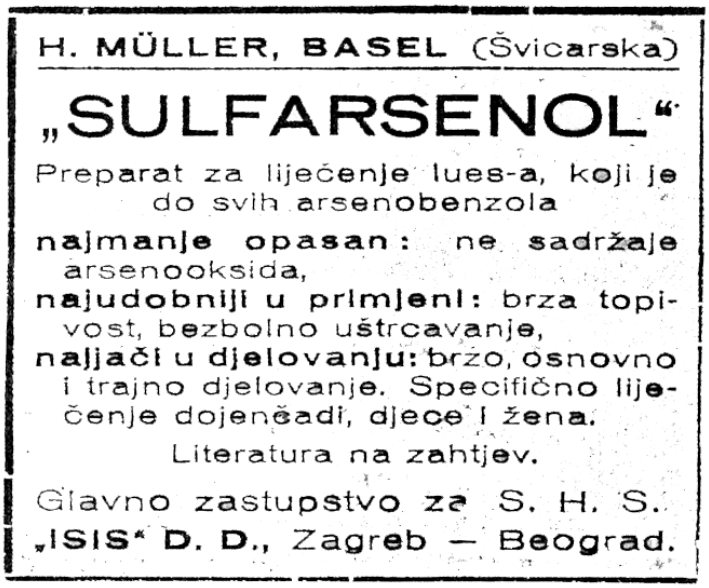
13 Roehr CC, Reibel S, Zeigert M, Sommerfeld C, Wahn U, Niggemann B. Atopy patch test, together with determination of specific IgE levels, reduce the need for oral food challenges in children with atopic dermatitis. J Allergy Clin Immunol 2001;107:548-53.

14 Majamaa H, Moisio P, Holm K, Kautiainen H, Turjanmaa K. Cow's milk allergy: diagnostic accuracy of skin prick and patch tests and specific IgE. Allergy 1999;54:346-51.

15 Fukushima Y, Kawata Y, Onda T, Kitagawa M. Consumption of cow milk and egg by lactating women and the presence of beta-lactoglobulin and ovalbumin in breast milk. Am J Clin Nutr 1997;65:30-5.

16 Sicherer SH, Noone SA, Koerner CB, Christie L, Burks AW, Sampson HA. Hypoallergenicity and efficacy of an amino acid-based formula in children with cow's milk and multiple food hypersensitivities. J Pediatr 2001;138:688-93.

17 Businco L, Cantani A. Management of infants with cow milk allergy. In: Meastecky J, Blair C, Ogra PL, editors. Immunology of milk and the neonate. New York (NY): Plenum Press; 1991. p. 437-43.



"Sulfarsenol" – for the treatment of syphilis. It does not contain arsenobenzole, dissolves and acts quickly, and has a long-term effect. Specifically intended for infants, children, and women.

From the collection of Stella Ferenčić-Fatović, M.D., Ph.D.

Acta Dermatovenerol Croat 2003;11(2):75-79 CLINICAL ARTICLE

Frequency of Standard and Occupational Contact Allergens in Tuzla Area, Bosnia and Herzegovina: Retrospective Study

Nerma Sijerčić, Nermina Hadžigrahić, Selma Kamberović, Edin Suljagić

Department of Dermatology and Venerology, University Hospital Center, Tuzla, Bosnia and Herzegovina

Corresponding author:

Nerma Sijerčić, M.D.

Department of Dermatology and Venereology

Tuzla University Hospital Center

Tuzla, Bosnia and Herzegovina

Received: 15. 12. 2002.
Accepted: 09. 03. 2003.

SUMMARY Allergic contact dermatitis is acute or chronic inflammatory skin disease of allergic etiology, which develops as a result of delayed type of hypersensitivity, i.e. type IV reaction according to the Gell and Coombs classification. In the retrospective study, we reviewed medical records of 495 patients diagnosed with allergic contact dermatitis in the 1988-1998 period. The records were obtained from the Cabinet of Allergology of the Department of Dermatology and Venerology, Tuzla University Hospital Center. There were 312 women and 183 men, aged between 18 and 60 years. The patients were divided into 6 groups according to their occupation. Contact sensitization was established in 295 or 59.6% of them. The type and frequency of causative agent in allergic contact dermatitis depended on working environment. Potassium dichromate, a component part of cement, caused positive reaction in 48% of construction workers tested, which was significantly more than in the "other occupation" group, where 14.6% of patients showed positive reaction to potassium dichromate ($p<0.001$). Formaldehyde, used in leather processing, was the most frequent among the four leading allergens in the group of shoe workers (13.3%), whereas charcoal tar (used in the metal processing) was the most frequent allergen in the group of metal workers (13.9%). Nickel sulfate, potassium dichromate, cobalt chloride, and urushiol were frequent allergens in the "other occupation" group, housewives, and textile workers. The listed allergens are present at large in everyday life as well as in particular occupations.

KEY WORDS allergens; dermatitis, allergic contact; dermatitis, occupational; hypersensitivity, delayed; nickel

INTRODUCTION

Allergic contact dermatitis is acute or chronic inflammatory skin disease of allergic etiology, which develops as the result of delayed type of hypersensitivity (type IV reaction according to the Gell and Coombs classification). Allergens (hapten+carrier protein), Langerhans' cells in the epidermis, and sensitized T lymphocytes play the main role in the pathogenesis of the disease. CD4 lymphocytes re-

Acta Dermatovenerol Croat
2003;11(2):75-79

lease cytokines that attract other lymphocytes, macrophages, and leukocytes and activate production of soluble factors (macrophage migration inhibitory factor – MIF, macrophage-activating factor – MAF, lymphokines, and chemotactic factors) (1).

Clinical polymorphism is typical for allergic contact dermatitis. In the acute allergic contact dermatitis, skin changes most frequently occur on the exposed parts of the body, such as the face, neck, lower arms, and back of the hands, where erythema (redness), edema (swelling), papules (inflammatory nodules), vesicles (small blisters), and sometimes bullas (blisters) develop. Chronic allergic contact dermatitis is characterized by dry, slightly infiltrated skin covered with squames and rhagades. Itching is present in every phase of the disease. Acute allergic contact dermatitis resolves after 1-4 weeks, whereas chronic form can last for months or even years, with periods of relapse depending on the frequency of skin contact with the allergen (2,3).

Most contact allergens today are chemicals. Tuzla region is a large industrial area, with diverse industry, and patients with allergic contact dermatitis are frequently seen in everyday dermatological practice. For example, 10.5-11.5% of the patients visiting the University Department of Dermatology and Venerology in Tuzla in the last two years had allergic contact dermatitis. Contact sensitization has generally increased in the whole world (2-6).

The aims of the study were to determine the most frequent causative agents in allergic contact dermatitis and to analyze the relation between individual allergens and the working and living environment in Tuzla area.

MATERIALS AND METHOD

In the retrospective study, we reviewed medical records of 495 patients with allergic contact dermatitis in the 1988-1998 period. The records were obtained from the Cabinet of Allergology of the University Department of Dermatology and Venerology, Tuzla University Hospital Center. There were 312 women and 183 men, aged between 18 and 60 years. The patients were divided into 6 groups according to their occupation (Table 1).

Allergologic investigation included assessment of skin sensitization by use of patch testing with

Table 1. Patients with allergic contact dermatitis according to their occupation

Occupation	No. of patients
Other occupation*	219
Housewives	91
Metal workers	43
Textile workers	63
Shoe workers	30
Construction workers	49
Total	495

*Other occupation includes clerks, students, teachers, unemployed, and persons not exposed to highly potent allergens in their everyday work and living environment.

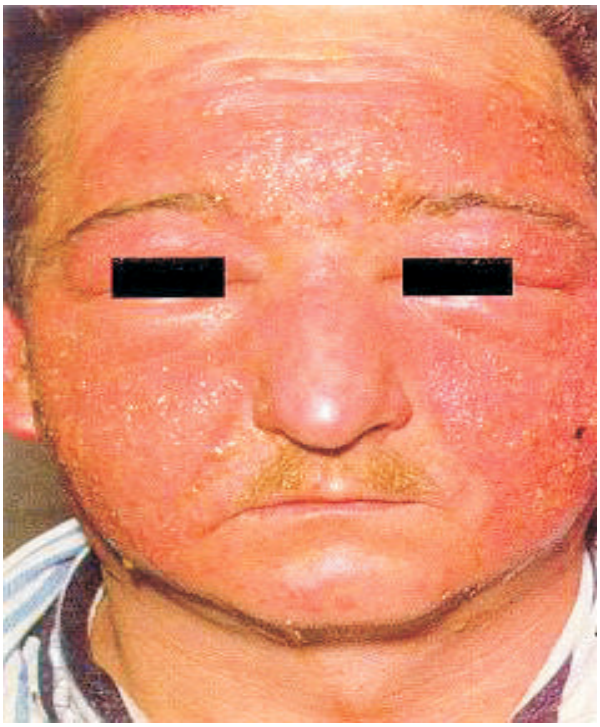


Figure 1. The patient with facial allergic contact dermatitis in acute phase.

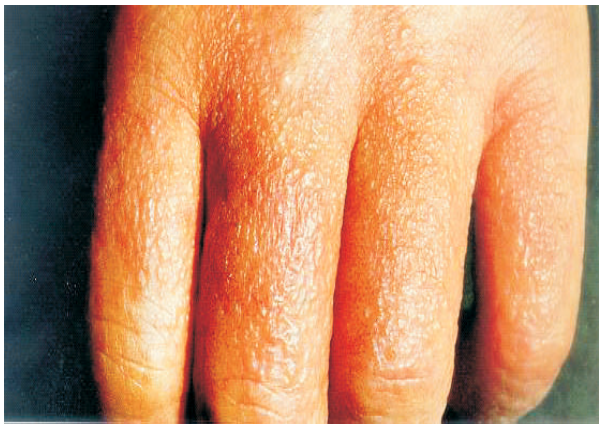


Figure 2. The hand of the same patient (see Fig. 1).

Table 2. Patients with patch test positive reaction and the most frequent allergens per occupation group

Occupation	No. (%) of patients	Patch test positive (No., %)	Most frequent allergen (%)
Other occupation*	219 (44.2)	134 (61.2)	nickel (22.8)
Housewives	91 (18.4)	51 (56.0)	nickel (19.8)
Metal workers	43 (8.6)	22 (51.2)	cobalt (18.6)
Textile workers	63 (12.7)	40 (63.5)	nickel (28.6)
Shoe workers	30 (6.0)	17 (56.0)	nickel (30.0)
Construction workers	49 (9.8)	33 (67.3)	potassium dichromate (49.0)
Total	495 (100.0)	295 (59.6)	

*Other occupation includes clerks, students, teachers, unemployed, and persons not exposed to highly potent allergens in their everyday work and living environment.

standard series of allergens, produced by the Zagreb Immunologic Institute, Zagreb, Croatia. Patches were placed on the skin of the back, and the reading was taken after 48 and 72 h; the reaction was scored according to the International Contact Dermatitis Research Group system (2,3). Patients in the acute phase of the disease were not tested, but treated until the withdrawal of the symptoms (Figs. 1 and 2). Chi-square test was used for data analysis.

RESULTS

Out of 495 patients with allergic contact dermatitis, 219 (119 women and 100 men) belonged to the "other occupation" group, which included clerks, students, teachers, unemployed, and other patients not regularly exposed to highly potent allergens in their working and living environment (Table 1). Positive reaction to patch testing with a standard series of allergens was found in 134 (61.2%) of them. Four most frequent allergens were nickel sulfate, potassium dichromate, cobalt chloride, and urushiol (Table 2, Fig. 3).

Out of 91 women included in the group of housewives, 51 (56.0%) were sensitized to the same four

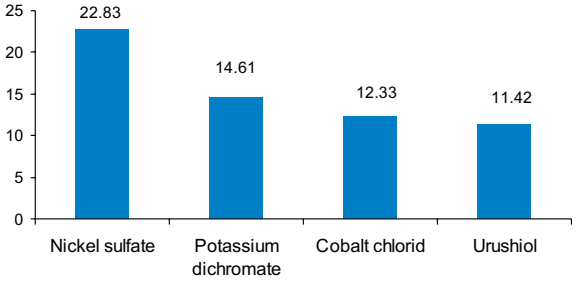


Figure 3. Distribution of the most frequent allergens in the "other occupation" group.

contact allergens as those found in the "other occupation" group (Figs. 3 and 4).

Out of 43 patients in the group of metal workers, 22 (51.2%) had positive patch test reaction. The most frequent allergens were cobalt chloride, nickel sulfate, urushiol, and charcoal tar. There were no positive reactions to potassium dichromate, as opposed to "other occupation" group, but sensitization to charcoal tar was confirmed, which is a frequent professional allergen in metal workers (Fig. 5).

Out of 63 patients in the group of textile workers, 40 (63.5%) developed patch test positive reaction. The most frequent allergens in this group of patients were potassium dichromate, nickel sulfate, urushiol, and cobalt chloride. There were no statistically significant differences in the contact sensitization between the group of textile workers and "other occupation" group (Fig. 6).

In the group of 30 shoe workers, 17 (56.0%) were positive to potassium dichromate, nickel sulfate, formaldehyde, and urushiol. Shoe workers are mostly exposed to these allergens at their work place. The hypersensitivity to potassium dichroma-

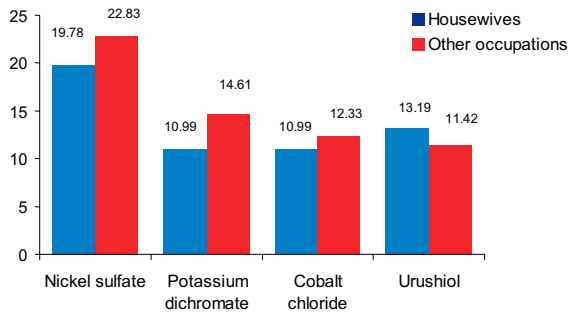


Figure 4. Comparative presentation of four most frequent allergens in the group of housewives and "other occupation" group.

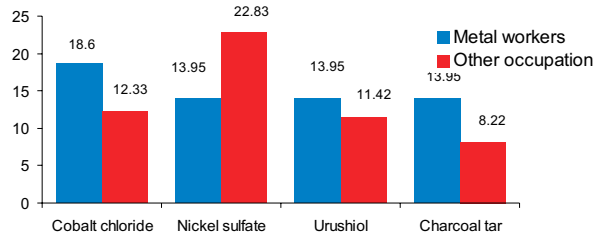


Figure 5. Comparison of four most frequent allergens in the group of metal workers and "other occupation" group.

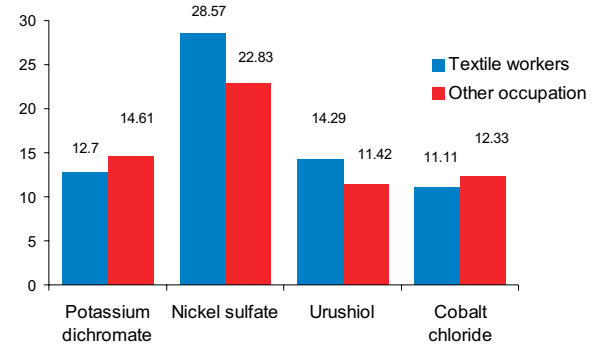


Figure 6. Comparison of four most frequent allergens in the group of textile workers and "other occupation" group.

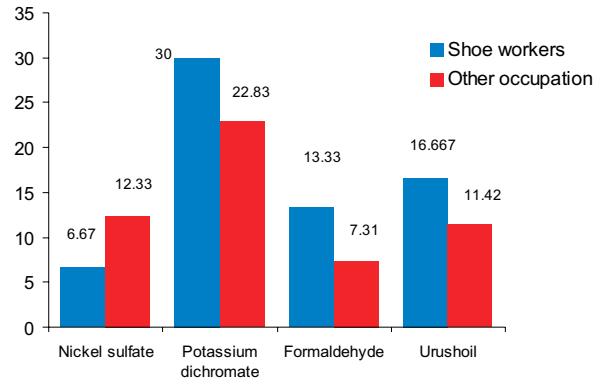


Figure 7. Comparison of four most frequent allergens in the group of shoe workers and "other occupation" group.

te was significantly higher in the shoe workers (7.2%) than in the "other occupation" group (Fig. 7).

Sensitization to potassium dichromate, cobalt chloride, nickel sulfate, and urushiol was established in 33 (67.3%) out of 49 construction workers. There was a significant difference in sensitization to potassium dichromate between the group of con-

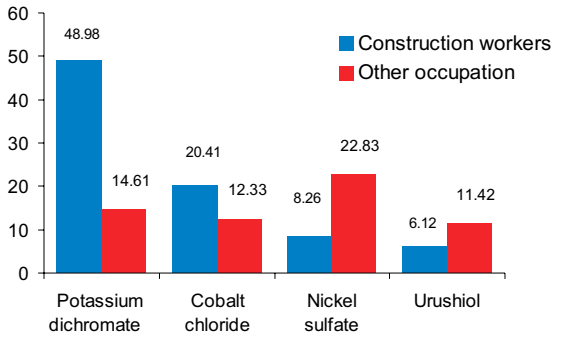


Figure 8. Comparison of four most frequent allergens in the group of construction workers and "other occupation" group.

struction workers and "other occupation" group (49.0% vs. 14.6%, respectively) (Fig. 8). Potassium dichromate and cobalt chloride can be found in cement and other construction materials, which is the reason why construction workers were significantly more exposed than other workers to those allergens at their work place ($p<0.001$).

DISCUSSION

Analysis of the frequent professional allergens yielded useful information. There is a need for control of the percentage of workers with hypersensitivity in the developed industrial area of Tuzla in order to improve occupational safety and adequate prevention of occupational allergic contact dermatitis. Our results for the group of shoe workers (13.3% positive to formaldehyde) point to the need for better protection during industrial processing of leather and other materials containing formaldehyde, with which shoe workers get in contact. These findings are in accordance with other studies (4-6). Wet cement represents a special threat to workers in construction industry. In highly developed European countries, sensitization to potassium dichromate is almost nonexistent, because the technological process of cement production has become completely closed and iron chloride has been introduced (6). In Scandinavian countries, for example, not a single construction worker with allergy to potassium dichromate has been recorded in the last 10 years. Our results – 67.3% construction workers with hypersensitivity – point to the need for improvement of both safety measures at work and cement production process. In our study,

nickel sulfate was the most frequent allergen in the "other occupation" group, group of housewives, textile and shoe workers, which is in accordance with other studies (5,6).

CONCLUSION

In the retrospective study, out of 495 patients with allergic contact dermatitis divided into 6 occupation groups, contact sensitization was established in 295 or 59,6% of them. The type and frequency of causative agent in allergic contact dermatitis depends on working environment. Potassium dichromate, a component part of cement, caused a positive reaction in 48% of construction workers tested, which was significantly more than in the "other occupation" group, where 14.6% of patients showed positive reaction to potassium dichromate ($p<0.001$). Formaldehyde, used in leather processing, was frequent among the four leading allergens in the group of shoe workers (13.3%), whereas charcoal tar (used in metal processing) was the most frequent allergen in the group of metal workers (13.9%). Nickel sulfate, potassium dichromate, cobalt chloride, and urueshiol were frequent allergens in the "other occupation" group, housewives, and textile workers. The listed allergens are present at large in everyday life as well as in particular occupations. Our results show that the continuous monitoring and diagnosis of contact allergenic dermatitis, especially in occupations at risk, would provide useful information indicating the need for change in technological process of work, as well as for improvement of safety measures at work.

References

1 Lipozenčić J, Magdić-Jelavić V. Kontaktni dermatitisi i bolesti s nazivom egzema. In: Lipozenčić J, editor. Dermatovenerologija. Zagreb: Naklada Zadro; 1999. p. 112-4.

2 Braun-Falco O, Plewig G, Wolf HH, Burgdorf WH. Acute allergic contact dermatitis and chronic allergic contact eczema. In: Braun-Falco O, Plewig G, Wolf HH, Burgdorf WH, editors. Dermatology. 2nd completely revised ed. Berlin: Springer Verlag; 2000. p. 467-84.

3 Rietschel RL, Fowler JF Jr. Fisher's contact dermatitis. 4th ed. Baltimore (MD): Williams & Wilkins; 1995.

4 Kofler H. Berufsdermatosen. In: Fritsch P. Dermatologie und Venerologie. Berlin-Heidelberg: Springer; 1998. p. 183-7.

5 Marks JG, DeLeo VA, editors. Contact and occupational dermatology. 2nd ed. St. Luis (MO): Mosby-Year Book; 1997.

6 Andersen KE, Burrows D, White IR. Allergens from the standard series. In: Rycroft RY, Menne T, Frosch PJ, editors. Textbook of contact dermatitis. 2nd revised ed. Berlin: Springer Verlag; 1995. p. 415-58.

Acta Dermatovenerol Croat 2003;11(2):80-87 REVIEW

The Use of Emollients as Sophisticated Therapy in Dermatology

Ivana Nola, Krešimir Kostović, Lena Kotrulja, Liborija Lugović

Department of Dermatology and Venerology, Sisters of Mercy University Hospital, Zagreb, Croatia

Corresponding author:

Ivana Nola, M.D., M.S.

Sisters of Mercy University Hospital

Department of Dermatology and Venerology

Vinogradska c. 29

10000 Zagreb, Croatia

ivana_nola@hotmail.com

Received: 04. 02. 2003.
Accepted: 08. 04. 2003.

SUMMARY Emollients are agents designed to make the stratum corneum softer and more pliant by increasing its hydration. A large number of preparations are available today, many of which are marketed as cosmetic and therapeutic moisturizers. They are the most prescribed products in dermatology. Their structure and function are surprisingly complex and sophisticated, and many are equidistant between cosmetics and drugs. The use of the emollients corrects the problems in scaling disorders. It is well known that the electrical properties of the stratum corneum change after application of an emollient. It is also possible that they have suppressive effects on epidermal thickening. Emollients have an anti-inflammatory activity and also give some transient relief from irritation. In clinical use emollients are employed as treatments for ichthyoses, xeroderma and disorders of keratinization, atopic dermatitis, psoriasis, and photodamaged skin. Emollients of the new millennium include agents that mimic natural ingredients and function as botanicals, including vitamins, hydroxy acids, and retinoids. Emollients can cause a few side effects, such as irritant dermatitis, allergic contact dermatitis, fragrance allergy or allergy to other constituents (preservatives or additives), stinging, cosmetic acne, and pigmentary disorders. We can conclude that emollients, continuously evolving to ever more sophisticated products, are very important in the treatment of different dermatoses.

KEY WORDS dermatologic agents; dermatology; emollients; skin; skin diseases

INTRODUCTION

It would be very difficult to imagine the practice of dermatology or the world of cosmetics without emollients. The urge to apply different kinds of oil and grease to the skin may be as old as mankind itself. It is certain that the ancient Greeks, and Egyptians before them, applied oils and pleasant smelling fatty concoctions on the skin, but it also seems likely that even before that early man had developed the habit of applying animal or plant oils for protection and maybe pleasure. They were certainly in use as both medicaments and cosmetics (1-4).

From the records from around 700 BC we learned that the ancient Greeks used wool fat, an agent that continued to be extensively used over following centuries. Petrolatum (petroleum jelly) or

Acta Dermatovenerol Croat
2003;11(2):80-87

white soft paraffin of "Vaseline" was originally the subject of a patent filed by Cheseborough in 1872 (1). This semi-solid distillation derivative of crude petroleum has been astonishingly successful over the past 130 years as an emollient and as a constituent of a wide variety of topical products. Emollients, obviously, have a long and honorable history and remain as important as ever in the management of patients with skin disorders (1,5).

Today, emollients are formulated in quite a complex manner. Moreover, it is not only their formulation, but also their effect that is complex (6).

WHAT ARE EMOLLIENTS?

There are different terms for emollients to describe their different functions. The term most frequently used is "emollients", followed closely by "moisturizers", "lubricants", and "vanishing creams". When employed to carry some active agent to the skin surface, they are referred to as "bases" or "vehicles". When sold as cosmetics, emollients often carry more romantic names, describing a desired biological activity, such as "revitalizing cream" or "regenerating milk" (4,7).

When prescribed as treatment adjuncts or, indeed, as the main treatment, like for xerodermatous disorders, emollients should be used frequently enough to obtain the optimal moisturizing effect (3).

BIOPHYSICAL ACTIONS OF EMOLLIENTS

The main action of emollients is to occlude the skin surface and to encourage a build-up of water within the stratum corneum. Actually, there is an uneven distribution of water within the stratum corneum, with higher concentrations in the deeper segments near the viable epidermis. The water is held by the avidity of small molecules as well as by hydrogen bonding to some of the protein structures. The lipids in the intercorneocyte space, and particularly the ceramides, impede the movement of water through the horny layer. These molecules emanate from the lamellar bodies in the granular cell layer and function as alternating electron-dense and electron-lucent lamellae in the space between the horn cells. However, the lipids themselves do not influence the mechanical function of the stratum corneum (8). It is the water content of the skin that controls its biomechanical properties (9).

Desquamation is a fundamental part of epidermal biology as it is intimately linked to epidermal cell production. Furthermore, normal desquamation is central to barrier function. This, if nothing else, is the reason why emollients play so important role in dermatopharmacology (4).

The electrical properties of the stratum corneum change after application of an emollient due to the increased amount of water in the corneum; they have been popular methods for assessing the hydration of the horny layer (10).

Emollients seem to have antimitotic properties, anti-inflammatory activity, and antipruritic effects. They also seem to have some therapeutic activity in psoriasis and chronic eczematous states, which suggests the possibility of having suppressive effect on epidermal thickening. There are two possible mechanisms of their action. The first one relates to the observation that emollients promote the healing of a damaged stratum corneum barrier, and the improved barrier somehow calms down the highly active epidermis. The second possibility is that there is a reduction in prostaglandin synthesis caused by emollients containing a high proportion of petrolatum, which is also in some way responsible for this effect. Whatever the mechanism, the antimitotic activity seems to have clinical relevance and should be investigated further (11).

Rubbing an emollient into a sore and inflamed patch of skin gives symptomatic relief and reduces the degree of inflammation. How an anti-inflammatory action is actually effected is not clear. One study did show that petrolatum has inhibitory effect on prostaglandin synthetase. This bears an important implication with regard to the synthesis of eicosanoid compounds and their involvement in inflammatory disease (1,12).

Emollients give some transient relief from irritation, even when the pruritus is unaccompanied by any visible skin abnormality. At least in the case of emulsion formulation, some of this effect may be caused by the skin cooling due to the evaporation of the water content of the preparation. However, not all emollients contain water. Other actions may also be involved, e.g., if petrolatum can inhibit prostaglan-

din synthetase, maybe other enzymes are inhibited as well (1).

CONSTITUENTS OF EMOLLIENTS

Lipids

Naturally occurring skin lipids and sterols are often added to moisturizers. In the correct proportions, these agents can help promote repair of cutaneous barrier function. In the wrong proportions, they can delay repair. Lipids (fats, waxes, and oils) are the essential components of emollients. They provide an impervious layer on the skin surface and prevent the flow of water through the skin and thus transepidermal water loss. The water unable to evaporate from the surface becomes trapped within the stratum corneum and profoundly alters the properties of that structure. The lipids used may be derived from animal fats of one sort or another, vegetables, minerals, or may be entirely synthetic in origin. Whatever the type of lipid use overall, lipids usually account for 20-40% weight of the entire formulation (13).

Animal lipids. Although animal fats were used as emollients in the past, they now have no place in the formulation of emollients. They consist predominantly of fully saturated triglycerides and are inelegant cosmetically (1).

Lanolins. Wool grease (or wax) has retained an important place in the formulation of emollients over the past 2 to 3 millennia. Lanolin is extremely complex, composed of esters, high molecular weight diesters, hydroxyesters, lanolin alcohols, and lanolin acids as well as hydrocarbons. Physically, it is a two-phase system with a liquid-lanolin oil component and a solid lanolin wax fraction. The liquid fraction contains more esters of lower molecular weight. Many studies have demonstrated that either hydrous lanolin or creamier preparations containing emulsions of lanolin are effective in the relief of xerotic skin through the restoration of perturbed barrier function: lanolin preparations are also helpful in wound healing. They are generally well accepted as excellent lubricants for the skin (14).

Petrolatum. Petrolatum is also known as white (or yellow when less refined) soft paraffin of Petrolatum jelly and is obtained by the distillation of mineral oils. Petrolatum was introduced in the 1870s as a wonder ingredient for the treatment of chapped hands and became popular because of its resistance to rancidity. Petrolatum is usually employed as the “gold standard” in comparative tests of the ability of emollients to reduce transepidermal water loss (15). Kligman (16) showed that apart from their emollient, soothing, and smoothing characteristics, petrolatum-containing emollients have significant UVR protection properties. The petrolatum preparations did have a sunscreen effect but it amounted only to an SPF of 2 (1,16).

Vegetable lipids. These “naturals” have been increasingly popular over the past two or three decades, partially because of a fashionable underlying premise that everything natural is good. Some vegetable lipids may possess special and useful properties, particularly those containing a significant proportion of unsaturated fatty acids. Vegetable oils that have been used include sunflower seed oil, grape seed oil, walnut oil, avocado oil, palm oil, and corn oil. Cocoa butter, candelilla wax, and cornuba wax are semisolid vegetable lipids that are sometimes employed. Cocoa butter is notorious for its propensity to cause “cosmetic acne” (17). Vegetable oils often have a distinctive aroma, which may be a disadvantage. Some oils contain allergens and cause sensitization (e.g., peanut oil and arachis oil) (1).

Synthetic lipids. Most lipid constituents used in modern formulations are synthetic because they have been chemically modified in some way and can hardly be described as pure natural products. Among the oldest of the synthetic lipids are the silicone oils, such as the dimethyl, polysiloxanes, and silicone glycol copolymers (1).

Humectants

These are substances added to emollient formulations to attract water into the stratum corneum. The humectants accumulate within the stratum corneum and attract moisture from the dermis, not from the environment. A major and very popular humectant in cosmetic products is glycerin, which has been in use for more than 50 years. Glycerin seems to maintain the osmolarity of the intracellular environment and liquid crystalline structure of membranes. It is usually employed at concentrations of 2-10%, but increased benefit has been claimed for preparations containing higher concen-

trations. Another important humectant is "Natural Moisturizing Factor" (NMF), which consists of amino acids, Pyrolidone Carboxylic Acid, urocanic acid, urea, lactic acid, and citrates. NMF accounts for 20-30% dry weight of the stratum corneum. These materials are extremely hygroscopic and important in maintaining a watery milieu in the upper part of the horny layer, enabling the proteases to cleave the desmosomal contacts. Lactic acid is an alpha-hydroxy acid and its benefits stem from its keratolytic effects. It has been found to increase ceramide levels within the stratum corneum. Lactic acid-containing cream also improves skin roughness, dyspigmentation, and sallowness in patients with photodamaged skin, although these effects could be assigned to its humectant properties (2).

Other agents classified as humectant, including sorbitol, dibutylphthalate, and ethoxylated glucose, are sometimes included in formulae (13).

Emulsifying Agents

The large majority of emollient formulations contain emulsions – usually oil in water, sometimes water in oil, and sometimes double and even triple emulsions are put together by very clever formulations. Emulsifying agents permit the formulation of such emulsions and ensure their continued stability (1). The exact emulsifier used depends on the oil in the emulsion. A mixture of hydrophilic and hydrophobic surfactants in often employed, and a detergent emulsifying agent that prevents aggregation and clouding. However, they tend to irritate the skin. A new category of surfactants that shows less tendency to cause irritation is the polymeric surfactants, e.g., ethoxylated dipoly-hydroxy-stearic acid (4).

Preservatives

Preservatives are also known as biocides, antimicrobial agents, or disinfectants. Essentially, they are agents that kill microbes and prevent colonization of topical formulations. Preservatives are essential in any lotion or cream formulation, especially those containing water. The system must be protected from microbiological contamination during manufacture and after it is opened and exposed to contamination by being used. The agents used as preservatives are parabens (methylparaben-propylparaben combination) formaldehyde donors (e.g., quaternium-15 and 3'-demothoxy-3O-demethylmatairesinol hydantoin), chelating agent (e.g., etylenediaminetetraacetic /EDTA/), methylisothiazolinone, and methylchloroisothiazolinone (12).

Other Ingredients

Bland agents (fillers), such as starch, gelatin, talc, and the pectinates, alter the thickness and rheological properties of formulations and sometimes they are added to the formulation. Sunscreens reduce the possibility of chronic photodamage. Fragrances are always added to emollient formulations and present in all topical products to mask the natural odors of their contents. Unfortunately, they are the most common offenders in producing an allergic contact dermatitis. Colorants are also complex, but not as much as fragrances, and give rise to adverse reactions less often (1).

Active Ingredients

These include agents for the treatment of photodamage, such as retinol, ascorbic acid, ceramides, hyaluronic acid, alpha hydroxy acids (AHAs), and vitamins. Retinoids can reduce some of the stigmata of photodamaged skin. AHAs have been shown to exfoliate and act as humectants. Vitamins have a role in protection from oxygen radicals produced by exogenous (e.g., UV light) and endogenous (e.g., inflammation) factors. When topically applied, vitamins can reduce cellular injury caused by these harmful insults (12).

EMOLLIENTS IN CLINICAL USE

The emollients have found very many uses as monotherapies or treatment adjuncts for diseased skin as well as prophylactic agents. They are employed for more than one purpose, like in eczema, where they reduce itching and scaling and have the cosmetic function of making the affected site look better (7,18,19).

Atopic Dermatitis

Atopic dermatitis is one of the greatest therapeutic challenges for dermatologists. During remission periods, the regular use of topical basis therapy that consists of drug-free water-in-oil moisturizer can decrease relapses and severity. Emollients help these patients because of their anti-inflammatory effect and give some temporary relief from the characteristic itch (20,21).

Psoriasis

In psoriasis, moisturizers can be used as adjuvant therapy with corticosteroids. In phototherapy, moisturizers can improve efficacy and may have a protective component against damage by UVA light. Whatever agents chosen, topically applied anthralin, calcipotriol, tazarotene or corticosteroids, or systemic therapy with methotrexate or cyclosporine, emollients are necessary adjuvant treatments for them all. They are especially important when oral retinoids are given due uncomfortable skin dryness and itchiness (12,22). It is likely that emollients can improve psoriasis in somewhat more fundamental ways. Experiments have shown that petrolatum reduces the mitotic activity of the stimulated epidermis, but how this antimitotic activity is mediated is still uncertain (2).

Ichthyosis, Xeroderma, and Disorders of Keratinization

All patients with ichthyotic or xerodermatous disorders need to take particular care while bathing and where possible in modulating the humidity of their environment. When used regularly, moisturizers make the affected skin feel less itchy and more comfortable. In addition, scaling decreases and the skin looks and feels smoother. The improvement may be the result of rapid dissolution of desmosomal bonds by activation of the stratum corneum chymotryptic enzyme when there is sufficient moisture. The use of urea for skin disorders can be traced back to Babylonian times. It was certainly widely used for infected wounds and inflammatory disorders. Inclusion of urea (5-10%) in the formulation seems to improve the clinical efficacy of the treatment of ichthyosis, xerotic disorders, and pityriasis rubra pilaris (23,24). Glycerin is an extremely popular additive to emollients and has excellent characteristics (4,25).

Other Inflammatory Disorders

Radiotherapy can result in unpleasant burns, and adequate use of emollients can improve the discomfort and decrease the inflammation. It should be routinely used in patients undergoing this treatment. Because of their generally soothing qualities, emollients are useful after all types of inflammatory dermatoses (e.g., adverse reactions to drugs or sunburns) (12).

Use of Emollients with Topical Retinoids and Other Irritants

Topical retinoids have an unfortunate tendency to cause skin irritation. Therefore, topical retinoids are usually applied at night, whereas emollients should be applied to the treated areas as often as needed during the day. The same applies to treatment with benzoyl peroxide preparations for acne, as these can also cause significant irritation (7,26).

Wound Healing

Ointments have a beneficial effect on the processes of epidermal migration and regeneration. There is considerable body of evidence that the rate of re-epithelization increases with the use of emollients. Angiogenesis also seems to be increased and scar formation is decreased (1,27).

Prevention of Dermatitis

It was shown that normal undamaged skin has enhanced barrier function after use of emollients. A number of studies have demonstrated that the use of emollients reduces the severity of skin irritation from detergents. Various moisturizers considerably reduced the increased transepidermal water loss from the skin exposed to dishwashing detergent in volunteer subjects, as compared with controls whose skin was not emollient-treated but was detergent-treated. Also, prolonged hydration of the stratum corneum may actually make it more permeable and susceptible to environmental trauma. This applies both to the prolonged use of rubber gloves and the use of moisturizers (4).

Chronic Photodamage

Judicious use of emollients will reduce the appearance of the fine lines and wrinkles of photodamaged skin by moisturizing the upper stratum corneum and making it swell and flatten. This “irons out” the fine lines, making the skin smoother and less “craggy” (28).

Thermal Protection

Water free ointments protect facial skin against frostbite (29). Also, painful cracks that develop in the brittle stratum corneum in conditions of low temperature and low relative humidity can be prevented by frequent use of emollients (30). These preparations also provide some protection for the skin

against external environmental trauma, such as cold wind, solar UVR, and atmospheric pollutants (31,32).

Emollients in Newborns

Preterm infants have an immature stratum corneum and relatively inefficient barrier function. Application of emollients decreases the transepidermal water loss and reduces skin infection in the newborn (33).

Extracorporeal Shock Wave Lithotripsy

Petrolatum emollient is used as a skin contact medium for the ultrasound shock wave from an extracorporeal lithotriptor used to fragment renal stones (1).

Emollients as Cosmetics

Moisturizers are the basis of foundation creams, nourishing creams, hand creams, repair creams, night creams, cleansing creams, and numerous other preparations. They produce some swelling in the horny layer, resulting in flattening of the skin surface features, so that the skin looks and feels smoother (4).

ADVERSE EFFECTS FROM THE USE OF EMOLLIENTS

Emollients are for the most part blameless and benign agents causing few side effects. Vast amounts of emollients are used on a daily basis and, unlike most other therapeutic agents, are responsible for very few problems (34).

Irritant Dermatitis

Primary irritant dermatitis is the most common type of contact dermatitis in general population. The dermatitis occurs where the emollient is applied. Thus, with products used as part of a treatment regimen, the rash may occur predominantly on the trunk, hands, and limbs. By definition, primary irritant dermatitis affects a large proportion of the individuals who use the product. Nonetheless, it can be difficult to recognize. Irritant responses may be the result of several irritant substances of a low degree of irritation working together rather than just one major toxic substance (35).

Diagnosis will depend on good “detective work” and identification of the irritating ingredients. In general terms, dark skinned individuals are less often affected by primary irritant dermatitis (36). Propylene glycol is a frequent constituent of creams because of its excellent solvent properties, but it becomes irritating in more than 15% in the final formula. Other emulsifying agents that stabilize cream formulation are sodium lauryl sulphate and detergents. Also, wool wax alcohols, the preservative benzalconium, chloride, some free fatty acids, e.g., oleic acid and polyethylene glycol stearates, are other substances that may cause irritation (20,36).

Allergic Contact Dermatitis

Allergic contact dermatitis (ACD) is the most frequent adverse side effect due to cosmetics in general and emollients in particular. ACD may arise because of a pre-existing allergy to one of the constituents or the subject may become sensitized solely due to the use of the emollient in question. The usual groups of chemical agents to which sensitivity develops are fragrances, preservatives, and emulsifiers. Sometimes the sensitizer is a fundamental part of the emollient, such as lanolin or propylene glycol, but this is less common (37).

Fragrance Allergy

Fragrances are the most frequent cause of “cosmetic allergy”. Fragrances are universal in topical products. Even when labeled “fragrance free”, topicals have recently been found to contain some fragrance to mask the “natural” odor of the other constituents. “Fragrance mixes” containing the commonest fragrance allergens are much more predictive (38,39).

Allergy to Other Constituents

Preservatives are sometimes responsible for allergic contact dermatitis. Colorants are also occasional sensitizers, although paraphenylenediamine and azo dyes, once common culprits, are not so much in use today (34).

Stinging

There are some substances that have the annoying ability to cause a sensation of stinging when applied to the face. There is no visible sign of irritation when this happens and no changes can be de-

tected in any of the physiological variables, such as blood flow and transepidermal water loss (32).

Cosmetic Acne

Some substances, when applied topically, have the unfortunate tendency to cause comedones and sometimes the inflamed lesions of acne. They seem to do this by irritating the epithelium at the mouth of the follicle. This adverse side effect is much more frequently seen in individuals in the "acne age group". Formulations containing tar products are notorious for inducing an acneiform folliculitis, but these are not usually found in emollients. The major "comedogens" or "acneigens" are cocoa butter and its derivatives, petrolatum and other mineral oil substances, isopalmitate, isopropyl myristate, and their various analogues (17).

Miscellaneous Adverse Reactions

Pigmentary disturbances are uncommon consequence of the use of cosmetics. Hyperpigmented areas on the neck were not uncommon result of a photosensitivity response to 5-methoxypsoralen in Bergamot oil, which was a fragrance constituent of "eau do cologne" (34). Depigmentation is a rare result of cosmetic usage – the cosmetic industry is mostly looking for agents to make the skin less pigmented (34). Oleogranulomatous inflammatory response can occur in lymph nodes draining areas of skin treated with emollients in a patient with an unusual form of ichthyosis called Netherton syndrome (40).

References

1 Marks R. Sophisticated emollients. Stuttgart, New York: Georg Thieme Verlag; 2001.

2 Draelos ZD. Therapeutic moisturizers. Dermatol Clin 2000;18:597-607.

3 Draelos ZD. Cosmetics and skin care products. A historical perspective. Dermatol Clin 2000;18:557-9.

4 Salka BA. Emollients. Cosmet Toilet 1997;112:101-6.

5 Fendler EJ. Physico-chemical considerations. In: Loden M, Maibach HI, editors. Dry skin and moisturers. London: CRC Press; 1999. p. 175-82.

6 Hardering CR, Watkinson A, Rawlings AV. Dry skin, moisturisation and corneodesmolysis. Int J Cos Sci 2000;22:21-52.

7 Loden M. Urea. In: Loden M, Maibach HI, editors. Dry skin and moistures. London: CRC Press 1999. p. 243-50.

8 Blank IH. Further observations on factors, which influence the water content of the stratum corneum. J Invest Dermatol 1953;21:259-69.

9 Dobrev H. Use of cutometer to assess epidermal hydration. Skin research & Technology 2000;6:239-44.

10 Tagami H. Measuring of electrical conductance and impedance. In: Serup J, Jemec GB, editors. Handbook of invasive methods and the skin. London: CRC Press; 1995. p. 159-70.

11 Jemec GBE, Na R, Wulf HC. The inherent capacitance of moisturising creams: A source of false positive results? Skin Pharmacol Appl Skin Physiol 2000,13: 182-7.

12 Santiago AC. Moisturizers. eMedicine. Available from: *http://www.emedicine.com/derm/topic506.htm*. Accessed: January 31, 2003.

13 Orth DS, Appa Y. Glycerine. A natural ingradient for moisturising skin. In: Loden SM, Maibach HI. Dry skin and moisturisers. London: CRC Press 2000; p. 213-28.

14 Hold E, Sveinsdottir S, Agner T. Effect of long term use of moisturiser on skin hydration: barrier function and susceptibility to irritants. Acta Derm Venereol 1999;79: 49-51.

15 Friberg SE, Ma Z. Stratum corneum lipids, petrolatum and white oils. Cosmet Toilet 1993;107:55-9.

16 Kligman LH, Kligman AM. Petrolatum and other hydrophobic emollients reduce UVB induced damage. J Derm Treatment 1992;2:3-7.

17 Katoulis A, Kakepis E, Kintzious H, Kakepi M. Comedonicity of cosmetics: a review. J Eur Acad Dermatol Venereol 1996;7:115-9.

18 Granlund H. Treatment of childhood eczema. Paediatr Drugs 2002;4:729-35.

19 Kucharekova M, Schalkwijk J, Van De Kerkhof PC, Van De Valk PG. Effect of a lipid-rich emollient containing ceramide 3 in experimentally induced skin barrier dysfunction. Contact Dermatitis 2002;46:331-8.

20 Loden M, Andersson AC, Lindberg M. Improvement in skin barrier function in patients with atopic dermatitis after treatment with a moisturising cream (Canoderm). Br J Dermatol 1999;140:264-7.

21 Bruckner AL, Weston WL. Allergic contact dermatitis in children: a practical approach to management. Skin Therapy Lett 2002;7:3-5.

22 Reylonds NJ, Meggitt SJ. Phototherapy and systemic treatments. Hosp Med 2002;63:657-61.

23 Raab WP. Uses of urea in cosmetology. Cosmet Toilet 1990;105:97-102.

24 Fraiture AL, Braham C, Pierard-Franchimont C, Pierard GE. How I treat pityriasis rubra pilaris. Rev Med Liege 2002;57:363-5.

25 Holden C, English J, Hoare C, Jordan A, Kownacki S, Turnbull R, et al. Advised best practice for the use of emollients in eczema and other dry skin conditions. J Dermatolog Treat 2002;13:103-6.

26 Hannuksela A, Kinnunen T. Moisturisers prevent irritant contact dermatitis. Acta Derm Venereol 1992;72: 42-4.

27 Lewis-Byers K, Theyer D. An evaluation of two incontinence skin care protocols in a long-term care setting. Ostomy Wound Manage 2002;48:44-51.

28 Jackson EM. Facial moisturizers and wrinkles. Dermatol Nurs 1992;4:205-7.

29 Lehmuskallio E. Emollients in the prevention of frostbite. Int J Circumpolar Health 2000;59:122-30.

30 Lehmuskallio E, Rintmaki H, Anttonen H. Thermal effects of emollients on facial skin in the cold. Acta Derm Venereol 2000;80:203-7.

31 Ramsing DS, Agner T. Preventive and therapeutic effects of a moisturiser. Acta Derm Venereol 1997;77: 335-7.

32 Grove GL, Soschin DM, Kligman AM. Adverse subjective reactions to topical agents. In: Drill VA, Lazar P, editors. Cutaneus toxicology. New York (NY): Raven Press; 1984. p.139-45.

33 Soll RF, Edwards WH. Emollient ointment for preventing infection in preterm infants. Cochrane Database 2000, Syst Rev CD001150.

34 Berne B, Bostrom A, Grahnen A, Tammela M. Adverse effects of cosmetics and toiletries reported to the Swedish Medical Products Agency 1989-1994. Contact Dermatitis 1996;34:359-62.

35 Sieben S, Blomeke B, Merk HF. Fragrance between allergic, hypoallergic and irritant: in vitro studies. In: Elsner PR, Merk HF, Maibach HI. Controlled efficacy studies and regulation. Heidelberg: Springer-Verlag; 1999. p. 226-40.

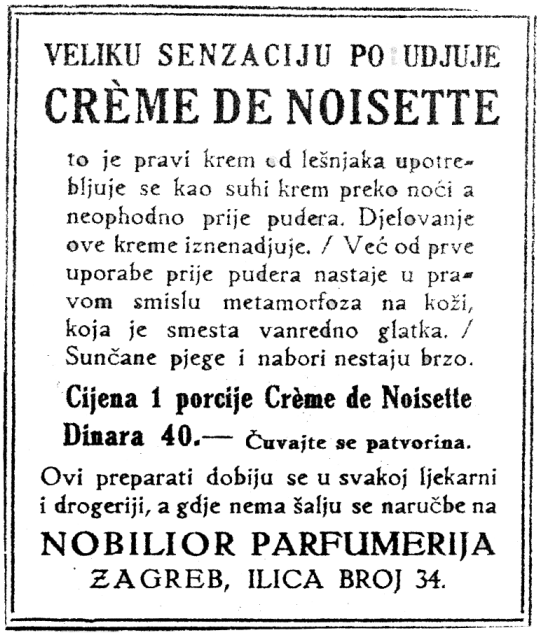
36 Zhai H, Maibach HI. Moisturirers in preventing irritant contact dermatitis: an overview. Contact dermatitis 1998;38:241-4.

37 Draelos ZD. Hydrogel barrier/repair creams and contact dermatitis. Am J Contact Dermat 2000;11:222-5.

38 Scheinmann P. The foul side of fragrance-free products: what every clinician should know about managing patients with fragrance allergy. J Am Acad Dermatol 1999;41:1020-4.

39 Beck MH. Fragrance allergy. Br J Dermatol 2000;142: 203-9.

40 Cockayne S, Lee J, Harrington C. Oleogranulomatous response in lymphnodes associated with emollient use in Netherton syndrome. Br J Dermatol 1999;141: 562-4.



"Creme de Noisette" made of hazelnuts and used as a dry night cream. It leaves the skin unbelievably smooth. Sunspots and wrinkles quickly disappear.

From the collection of Stella Ferenčić-Fatović, M.D., Ph.D.

Topical procedures, innovations, and mistreatments in dermatovenerology

Lokalna terapija, novosti i greške u liječenju u dermatovenerologiji

FINAL PROGRAM AND BOOK OF ABSTRACTS

MEĐUNARODNI KONGRES
INTERNATIONAL CONGRESS

HOTEL JEZERO, PLITVICE / CROATIA
May 29-31, 2003
www.cybermed.hr/3dermkh

POD POKROVITELJSTVOM AKADEMIJE MEDICINSKIH ZNANOSTI HRVATSKE
UNDER THE AUSPICES OF THE CROATIAN ACADEMY OF MEDICAL SCIENCES

organizira organized by
HRVATSKO DERMATOVENEROLOŠKO DRUŠTVO HRVATSKOG LIJEČNIČKOG ZBORA
CROATIAN DERMATOVENEROLOGICAL SOCIETY OF THE CROATIAN MEDICAL ASSOCIATION

u suradnji s in cooperation with
INTERNACIONALNOM AKADEMIJOM ZA KOZMETIČKU DERMATOLOGIJU
THE INTERNATIONAL ACADEMY OF COSMETIC DERMATOLOGY IACD

Under the auspices of the Croatian Academy of Medical Sciences

International Congress

TOPICAL PROCEDURES, INNOVATIONS, AND MISTREATMENTS IN DERMATOVENEROLOGY

organized by

Croatian Dermatovenerological Society of the Croatian Medical Association

in cooperation with

The International Academy of Cosmetic Dermatology

IACD

Hotel Jezero, Plitvice/Croatia,

May 29-31, 2003

Honorary Presidents:

W. J. Cunliffe (Leeds), K. Holubar (Vienna), L. E. Millikan (New Orleans), L. Ch. Parish (Philadelphia), J. Ring (Munich),

President:

J. Lipozenčić (Zagreb)

International Scientific Committee:

W. Aberer (Graz), A. Basta-Juzbašić (Zagreb), J. Bingham (London), S. Brenner (Tel Aviv), C. R. Celebi (Ankara), V. Čajkovac (Zagreb), H. Gollnick (Magdeburg), V. Heghyi (Bratislava), A. Horvath (Budapest), A. Kapp (Hannover), A. Katsambas (Athens), J. Lipozenčić (Zagreb), L. E. Millikan (New Orleans), H. Nakayama (Tokyo), L. Ch. Parish (Philadelphia), M. Ramos-e-Silva (Rio de Janeiro), J. Ring (Munich), A. Stary (Vienna), G. Trevisan (Trieste), R. Wolf (Tel-Aviv), M. Wough (Leeds)

Organizing and Scientific Committee:

A. Basta-Juzbašić (Zagreb), V. Barišić-Druško (Osijek), I. Dobrić (Zagreb), F. Gruber (Rijeka), J. Lipozenčić (Zagreb), D. Marasović (Split), V. Milavec-Puretić (Zagreb), A. Pašić (Zagreb), B. Petričić (Zadar), M. Skerlev (Zagreb),

Secretaries:

S. Ljubojević (Zagreb), N. Pustišek (Zagreb)

Treasurer:

A. Pašić (Zagreb)

Congress Secretariat:

Department of Dermatology and Venerology, Zagreb University Hospital Center, Šalata 4, 10000 Zagreb, Croatia; Phone/Fax: +385-1-4920-014; +385-1-4552-333/128; e-mail: *jasna.lipozencic@zg.tel.hr*; *www.cybermed.hr/3dermkh*

Scientific Information:

The Scientific Program consists primarily of Plenary lectures and lectures, Satellite Symposia, Free Communications and Posters. The general theme of the Congress are highlights in local therapy in dermatovenerology. A number of distinguished scientists have been asked to present their lectures related to the main Congress topic. The time allotted for each presentation is 8-20 minutes.

Technical information for presentations:

Slide Reception/Preview Desk will be located near by Congress Hall

For presenters giving a lecture or oral presentation with slides, a slide reception and preview desk is available during the Congress hours. Speakers are kindly requested to hand in their slides at least one hour before the beginning of this session. Slides 5x5 cm must be fitted in the plastic frames. Specialized personnel will check the order of the slides together with the speaker, seal and label the carrousel and take it to the Meeting room. Double projection will be provided in all sessions. LCD projection will be provided in Congress hall.

If you are a Chairman

- Please be at your session room 10 minutes prior to commencement of the session. We would like to remind you that time allotted for presentation is:
- 15-20 minutes for plenary
- 8- 15 minutes for other lectures
- You are kindly requested to make sure that speakers strictly adhere to the time scheduled.

If you are Speaker

- Please be certain that the length to your lecture/oral presentation stays within the allotted time given in Scientific Program. We remind you that you should turn in your slides at least one hour before the commencement of the session. You must collect your slides from the slide reception immediately after the end of the session. Please follow the time schedule for your presentation.

Instructions for PC

- Congress Hall will be fully equipped with the necessary equipment for presentation through PC. Speakers are kindly requested to bring their diskette or CD Rom with their presentation.

Technical equipment:

- Single slide projection (carusell 24x36), double slide projection (carusell 24x36), overhead projection, LCD projection (PC Power Point).

Posters & Meeting Hall

- All posters will be on display for the entire duration of the Meeting. Each poster board is 1 meter wide x 1,50 meters high. Each board will be labeled with your poster presentation number, which is assigned to you (refer to your personal letter).
- Material for mounting posters (double-sided Scotch tape) will be available at the Congress Secretariat.

Poster mounting and removal schedule:

- Mounting: Thursday, May 29, 2003, between 8,00 - 19,00
- Removal: Saturday, May 31, 2003, between 16.00 - 18.00
- **Poster Award for the best three posters, Saturday, May 31, 2003 at 17.00**

SCIENTIFIC CONGRESS PROGRAM

Thursday, May 29, 2003.

14,00-20,00 **Registration at the Registration Desk in front the Reception of the Hotel Jezero**

Poster set up in the Exhibition area

MAIN CONGRESS HALL HOTEL JEZERO

17,30-17,45 **Opening Ceremony** in the Congress Hall

Welcome: J. Lipozenčić, President of the Croatian Dermatovenerological Society of the Croatian Medical Association and Congress President

Welcome: L. E. Millikan, Secretary and Treasurer General of the International Academy of Cosmetic Dermatology

Short video program about the National Park Plitvice on the occasion of the Opening Ceremony

17,45-19,00 **PLENARY LECTURES**

17,45-18,00 **I. Dobrić, S. Murat-Sušić:** Basic principles of local therapy in dermatovenerology (**O 1**)

18,00-18,20 **A. Kapp:** Guidance on using tacrolimus in day practice (**O2**)

18,20-18,40 **H. P. M. Gollnick:** Pathogenesis and current global treatment strategies for acne - recommendations of the global alliance to improve outcomes in acne (**O3**)

18,40-19,00 **M. Ramos-e-Silva:** Ethnic skins and their management (**O4**)

19,00-20,00 **Satellite symposium OKTAL PHARMA**

Hair and scalp problems

V. Sibaud: Androgenetic alopecia and hair follicle growth - an update

M. Skerlev: Microbiological background, pathogenesis and treatment of dandruff

Importance of cosmetic dermatology

A. Stanimirović: Cosmetic dermatology: instead of cosmetics or better of cosmetic

20,00-22,00 Welcome reception

Friday, May 30, 2003.

8,00-20,00 Registration at the Registration Desk in front of the Reception of the Hotel Jezero

MAIN CONGRESS HALL HOTEL JEZERO

1. THE ROLE OF LOCAL TREATMENT IN DERMATOLOGY

08,45-10,45

Chairpersons: H. Nakayama, M. Ramos-e-Silva, R. Wolf, V. Milavec-Puretić

08,45-09,00 **V. Milavec-Puretić, I. Lakoš-Jukić:** Optimization of the topical therapy in dermatology (**O 5**)

09,00-09,15 **S. Murat-Sušić, K. Husar:** Neonatal and infant skin care (**O 6**)

09,15-09,30 **I. Nola, K. Kostović, L. Kotrulja, L. Lugović:** Emollients as sophisticated therapy in dermatology (**O 7**)

09,30-09,50 **R. Wolf, H. Matz, E. Orion:** Sunscreens – the ultimate cosmetic (**O 8**)

09,50-10,00 **J. Lipozenčić:** What's new in topical therapy? (**O 9**)

10,00-10,15 **C. R. Celebi:** The project of consumer attitudes on cosmetic products and applications in Balkanian countries (**O 10**)

10,15-10,30 **M. Ramos-e-Silva:** Photoaging – myths and facts (**O 11**)

10,30-10,45 **Discussion**

10,45-11,00 Coffee break

11,00-12,00 Satellite symposium SPIRIG

Extemporaneous prescriptions

M. Gloor: Update on extemporaneous prescriptions in dermatology (**S 1**)

P. Huber: Quality management in extemporaneous prescriptions

12,00-14,00 Lunch time and poster viewing

2. THERAPY OF INFLAMMATORY SKIN DISEASES

14,00-16,00

Chairpersons: J. Ring, A. Kapp, A. Pašić, G. Trevisan, J. Lipozenčić

14,00-14,20 **J. Ring, U. Darsow:** New approaches in treatment of atopic eczema (**O 12**)

14.20-14.35 **I. Lawrence:** Three studies in pediatric and adult patients demonstrate that tacrolimus ointment is safe and effective in the treatment of atopic dermatitis (**O 13**)

14,35-14,50 **F. Kokelj, G. Trevisan:** UV combined therapy in psoriasis (**O 14**)

14,50-15,05 **V. Kuzmanovska, L. Biserkoska-Atanasovska**: A new combination in local treatment for psoriasis vulgaris (**O 15**)

15,05-15,15 **P. Vržogić, A. Pašić, T. Podobnik-Takač, J. Lipozenčić:** Psoriasis vulgaris et arthritis psoriatica gravis mutilans – case report (**O 16**)

15,15-15,30 **Z. Jukić, V. Barišić-Druško, I. Ručević, N. Šustić, D. Biljan, A. Ageel, R. Vukadin:** Local therapy of psoriasis vulgaris – historical review (**O 17**)

15,30-15,45 **A. Pašić, R. Čeović, D. Hrsan:** The light in the treatment of dermatoses (**O 18**)

15,45-16,00 **Discussion**

16,00-17,00 Satellite symposium VICHY

Improving our Knowledge of Healthy Skin: UV-Induced Skin Damage and Public Awareness of Photoprotection

I. Bartenjev: The importance of photoprotection

A. Bakija-Konsuo, Z. Bukvić-Mokos, M. Kaštelan, L. Prpić-Massari, I. Sjerobabski-Masnec, L. Stojanovič, B. Žgavec: Educating people about the harmful effects of the sun and the importance of photoprotection: Results of the “Sun Prevention Center” campaign

17,00-17,30 Coffee break

3. TREATMENT OF VIRAL, BACTERIAL, PARASITIC DISEASES AND SEXUALY TRANSMITTED INFECTIONS

17,30-19,00

Chairpersons: A. Horváth, A. Stary, M. Waugh, M. Šitum, V. Heghyi

17,30-17,50 **A. Horváth, K. Nagy:** Unusual cases of immunodermatologic diseases: retroviral background? (**O 19**)

17,50-18,05 **M. Waugh:** Syphilis in Europe setting the scene (**O 20**)

18,05-18,20 **R. Wolf, H. Matz, E. Orion:** Scabies: The diagnosis of atypical cases and their treatment (**O 21**)

18,20-18,35 **A. Stary:** Antibiotic resistance in gonococcal infection (**O 22**)

18,35-18,45 **M. Potočnik:** Side effects of different treatment methods for anogenital warts (**O 23**)

18,45-19,00 **Discussion**

19,00-20,00 Satellite symposium BELUPO

Itrac 3 in Dermatology

M. Skerlev: The novel treatment strategies – significance of Itraconazole

20,30- Gala Dinner with live music

Saturday, May 31, 2003.

MAIN CONGRESS HALL HOTEL JEZERO

4. TREATMENTS AND MISTREATMENTS IN COSMETOLOGY

09,00-12,30

Chairpersons: H. P. M. Gollnick, A. Basta-Juzbašić, A. D. Katsambas, L. Oremović, F. Gruber

09,00-09,20 **H. Nakayama:** Melasma **:** Its causation and treatment (**O 24**)

09,20-09,40 **A. D. Katsambas:** Topical corticosteroids old and new guidelines (**O 25**)

09,40-09,55 **A. Basta-Juzbašić:** Pro et contra topical corticosteroids on the face (**O 26**)

09,55-10,10 **S. Ljubojević, J. Lipozenčić, A. Basta-Juzbašić, V. Milavec-Puretić:** Contact sensitivity in facial dermatitis (**O 27**)

10,10-10,25 **L. Oremović, I. Sjerobabski-Masnec, L. Lugović, G. Novak Bilić:** Cosmetics and acne vulgaris (**O 28**)

10,25-10,40 **N. Arslanagić, R. Arslanagić:** Side effects of local glucocorticosteroid therapy on the skin of the face (**O 29**)

10,40-11,00 **V. Hegyi, L. Hegyiva:** Laser in dermatology – past, present and future (**O 30**)

11,00-11,10 **I. Sjerobabski Masnec, L. Oremović, L. Kotrulja, I. Nola, J. Meštrović-Štefekov:** Mistreatment in acne therapy – a case report (**O 31**)

11,10-11,20 **N. Puizina-Ivić, T. Stipić, A. Čarija, S. Perić-Sušak, V. Gotovac:** Peelings of ageing skin: what's new? (**O 32**)

11,20-11,35 **I. Bartenjev:** Laser in dermatology (**O 33**)

11,35-11,50 **M. Šitum:** Approach to dermatosurgery in Croatia (**O 34**)

11,50-12,10 **L. E. Millikan:** Surgical treatment-cosmetic (**O 35**)

12,10-12,20 Discussion

12,20-12,30 Coffee break

12,30-13,30 Satellite symposium URIAGE-Formasana

Atopic dermatitis and skin care

J. Lipozenčić: Etiopathogenesis of atopic dermatitis – the phenomenon of dry and irritable skin

S. Murat-Sušić: Treatment and skin care of patients with atopic dermatitis

S. Škrinjar: URIAGE products in skincare of dry and atopic skin

13,30-14,00 ANNUAL MEETING OF THE CROATIAN DERMATOVENEROLOGICAL SOCIETY

14,00-15,00 Lunch time and poster reviewing

15,00-16,00 Satellite symposium BEIERSDORF

New Scar Reducer Therapy

B. Marinović: Common scars and keloids

J. Lipozenčić: Hansaplast – scar reducer in prevention of keloids

5. TREATMENTS AND MISTREATMENTS IN DERMATOMYCOLOGY

16,00-17,00

Chairpersons: M. Skerlev, A. Prohić, V. Barišić-Druško, N. Arslanagić

16,00-16,20 **M. Skerlev:** The appropriate and inappropriate treatment of dermatomycoses (**O 36**)

16,20-16,30 **A. Prohić, M. Kantor:** Tinea incognita caused by *Trichophyton verrucosum* (**O 37**)

16,30-16,40 **J. Radoš, M. Skerlev, D. Celić, I. Dobrić:** What do we really know about tinea incognita? – a case report (**O 38**)

16,40-16,50 **D. Biljan, V. Barišić-Druško, Z. Jukić, N. Šustić, I. Ručević, R. Vukadin, A. Ageel:** Clinical experience with promogran (**O 39**)

16,50-17,00 Discussion

17,00-17,15 N. Sijerčić, F. Gruber, M. Šitum: Poster award for the best three posters dedicated to topical therapy

17,15 J. Lipozenčić: Final Conclusion and Closing Ceremony

Closing Cocktail

Posters:

1. **T. Batinac, J. Lipozenčić, G. Zamolo, F. Gruber, A. Stašić, M. Lenković:** P53 and Ki-67 in proliferative skin diseases
2. **I. Kuljanac, E. Knežević, H. Cvitanović:** Erythema annulare centrifugum (a case report)
3. **I. Kuljanac, E. Knežević, H. Cvitanović:** Lichen planus linearis – a case report
4. **J. Lipozenčić, D. Bobek, V. Milavec-Puretić, J. Jakić-Razumović, A. Basta-Juzbašić, S. Ljubojević:** Expression of CD30+ and CD45+ RO in atopic dermatitis lesions
5. **L. Lugović, J. Lipozenčić:** Mixed and pure atopic dermatitis
6. **I. Manola, S. Ljubojević, J. Lipozenčić, N. Pustišek:** Nevus commedonicus – a case report and review of therapeutical approach
7. **S. Simeonova, V. Lazarevic, L. Biserkoska-Anasovska, M. Nikolovska:** Complications in tattooing with different approach to healing
8. **M. Šitum, Ž. Bučan, S. Levanat:** Gorlin's syndrome and therapeuthical possibilities
9. **M. Šitum, Ž. Bučan, K. Kostović, D. Štulhofer Buzina:** Congenital giant nevus – therapeutic approach
10. **I.Vukšić, N. Puizina-Ivić, D. Marasović, D. Anđelinović, T. Stipić, D. Pezelj, G. Pavičić, V. Gotovac, A. Čarija, S. Perić-Sušak:** The efficacy of table sugar in treatment of venous ulcers
11. **K. Kostović, Ž. Bučan, I. Nola, N. Troskot:** Vitiligo - new approaches in phototherapy
12. **I. Ručević, V. Barišić-Druško, D. Biljan, Z. Jukić, N. Šustić, R. Vukadin, A. Ageel:** Convatec in local therapy – a case report
13. **J. Meštrović-Štefekov, M. Šitum, B. Marinović, G. Novak-Bilić, L. Kotrulja, I. Nola:** Therapeutic difficulties in diagnosis of pemphigus foliaceus
14. **G. Novak-Bilić, M. Šitum, A. Soldo-Belic, J. Meštrović-Štefekov, L. Kotrulja, L. Lugović:** Vasculitis with mutilation: part of leprosy clinical findings?
15. **L. Kotrulja, L. Oremović, I. Sjerobabski Masnec, M. Šitum, M. Vurnek, Ž. Bučan, M.**

Tadinac Babić, N. Jokić Begić, R. Gregurek: Correlation between quality of life and psychological impact of patients in acne vulgaris

16. **H. Cvitanović, E. Knežević, I. Kuljanac:** Dermatomycoses in Karlovac county 1995-2002

17. **J. Lipozenčić, S. Ljubojević, N. Pustišek, T. Batinac:** Erythromelalgia provoked by influenza vaccine

18. **A. Smeh-Skrbin, I. Dobrić, G. Krnjević-Pezić, P. Vržogić:** Naphthalan in the treatment of patients with atopic dermatitis (neurodermitis)

Main Sponsor:

Belupo – lijekovi i kozmetika d.o.o., Koprivnica, Ulica Grada Vukovara 14, 10 000 Zagreb

Sponsors:

Oktal Pharma, Utinjska 40, 10 020 Zagreb

Beiersdorf Medical d.o.o., Križna 18, 10000 Zagreb

Vichy, Stoženska 2, 1113 Ljubljana, Slovenia

Schering-Plough, Central East AG, Trg Dražena Petrovića, 10 000 Zagreb

Formasana, Ilica 100, 10000 Zagreb

Spirig Adria, d.d., Mirkovečka 11, 10000 Zagreb

Exhibitors:

A & B

Beiersdorf

Belupo

Euroestetic centar

Farmacija

Formasana

F. Hoffmann-la Roche

Grafomedika

Jaka 80

Nova Derm d.o.o.

Oktal Pharma

Procter&Gamble d.o.o.

Remedia

Schering AG

Schering Plough

Spirig

Val-med

Vichy

Active participants are from:

1. Austria
2. Bosnia and Herzegovina
3. Brazil
4. Croatia
5. Germany
6. Greece
7. France
8. Hungary
9. Italy
10. Israel
11. Japan
12. Macedonia
13. Slovakia
14. Slovenia
15. United Kingdom
16. United States of America
17. Turkey

WHY PLITVICE LAKES NATIONAL PARK AS A CONGRESS VENUE?

Plitvice Lakes National Park, in the heart of Croatia, consists of 16 beautiful blue-green lakes, linked by a series of waterfalls and cascades forming a chain through a wooded valley. Over thousands of years, the waters that flow through this area have passed over limestone and chalk, creating deposits, which form natural barriers between the lakes. The lakes range in height from Proscansko Jezero at 636.6m (1,746 ft) above sea level, to the lowest Kaludjerovac at 505.2m (1,386 ft), and in surface area from 81 hectares (33 acres) to one hectare (2.5 acres). Aside from the beauty of the Plitvice Lakes, which offer a great opportunity for hiking, boating, and other activities, there are deer, wild boar, wild cats, small game, and many kinds of birds. The waters are rich in trout. Hunting, fishing, and swimming are not allowed.

In April 1949, a Code was brought into force declaring the Plitvice Lakes a Natural Park, as the area of special natural beauty. The organization of United Nations, ie, UNESCO office, recognized the exceptional natural uniqueness of area and included the Plitvice Lakes in 1979 among the World's cultural and natural inheritance, as a special value not only for us, but for the whole mankind. The Plitvice Lakes National park is a member of the Natural parks Federation and European Parks of Nature.

Join us at Plitvice, at the International Congress "Topical procedures, innovations and mistreatments", a scientific meeting which is to be held in hotel "Jezero". It will be scientific and travel experience to be treasured forever.

Website: *www.np-plitice.tel.hr*

E-mail: *np-plitvice@np-plitvice.tel-hr*

How to Reach Plitvice Lakes National Park?

By air

There are frequent direct flights to all important European cities from Zagreb International airport "Pleso". The transportation from Zagreb to Plitvice will be organized on May 29, 2003, at 9 a.m, and departure on May 31, 2003, at 12 p.m.

By car

The Lakes are located in the area of Southeast Europe, in part of Croatia where we go from northern flat land towards a bit more elevated karsted mountain area. The road going through Zagreb and then continuing towards central and southern section of the Adriatic, brings us to the Plitvice Lakes, as well as the roads from Kvarner, Gorski Kotar, Slovenia, and neighboring Bosnia and Herzegovina, connecting west and east, or south and north parts of Croatia. There is about 50 kilometers from Zagreb to Plitvice. There is also regular bus transportation from Zagreb to Plitvice.

BOOK OF ABSTRACTS

ORAL PRESENTATIONS

PLENARY LECTURES

O 1

BASIC PRINCIPLES OF LOCAL THERAPY IN DERMATOVENEROLOGY

I. Dobrić, S. Murat-Sušić

Department of Dermatology and Venerology, Zagreb University Hospital Center, Zagreb, Croatia

Systemic drugs are rarely used as the only form of treatment for skin diseases. Most cases require a combination of modalities, i.e. a kind of therapy that includes both systemic drugs and drugs for local application, which are usually referred to as topicals. When prescribing these drugs, it is necessary to take into account the following factors: 1) exact indication; 2) knowledge of pharmacodynamic effects of the drug; and 3) right choice of the vehicle into which the drug is incorporated. Our report contains some essential facts concerning vehicles and covers all forms of topicals: water solutions, baths, compresses, alcohol solutions, dermatological tinctures, varnishes, sprays, powders, mixtures, "zinkleim", bandages, balms, gels, pastes, oils, ointments, creams, and lotions. Furthermore, it deals with clinical morphology, the choice of the best dermatics, different groups of dermatics, and their areas of indication. Also, some important facts are pointed out about local therapy, glucocorticoids, and basic principles concerning the tactics in the local application of the glucocorticoids.

O 2

GUIDANCE ON USING TACROLIMUS IN DAY PRACTICE

A. Kapp

Abstract not received.

O 3

PATHOGENESIS AND CURRENT GLOBAL TREATMENT STRATEGIES FOR ACNE – RECOMMENDATIONS OF THE GLOBAL ALLIANCE TO IMPROVE OUTCOMES IN ACNE

H. P. M. Gollnick

University Clinic for Dermatology and Venerology, Otto-von-Guericke University, Magdeburg, Germany

Acne is a disease of the second life decade, with nearly 100% incidence among both women and men. Acne has a polyetiological background comprised of genetic, endocrine, immunological, environmental, and psychological factors. The polymorphous character of acne ranges from a very mild ''physiological'' course to a severe disabling acute or chronic inflammatory disease. In general, there are two types of acne: an endogenous or "natural" type and a "non-natural" type provoked by additional endogenous and/or exogenous factors. The target organ is the pilosebaceous follicle. Acne almost exclusively occurs in the areas of the body in which this type of follicle is distributed, in particular, the face, chest, and back. At least four etiological factors are responsible for the development and maintenance of acne. These include increased activity of the sebaceous glands with hyperseborrhea, disturbed cornification within the pilosebaceous duct, increased microbial colonization with *P. acnes*, and inflammatory and immunological reactions. However, one factor alone is usually not enough for development of acne. Acne comedonica and papulo-pustulosa can be found in more than 50% of cases.

The main part of acne treatment is going via topical route. When small nodes or scarring occurs,

systemic co-medication is indicated. Topical treatment is affecting at least three of the four main pathogenetic factors responsible for the development of acne. Topical agents currently available influence at least one of these factors, but often have additional effects. Topicals that act comedolytically and anticomedogenically are retinoids, tretinoin, isotretinoin, adapalene, tazarotene, and azelaic acid. Some of the retinoids have additional anti-inflammatory potency. Adapalene is known from experimental and clinical studies as a potent anti-inflammatory retinoid. Unfortunately, the bacterial resistance is emerging as a significant problem. *P. acnes* resistance to the commonly used erythromycin can also be transferred to clindamycin. BPO has a strong antibacterial potency without inducing bacterial resistance. Azelaic acid has similar effect, but does not work as fast as BPO. Furthermore, effective combinations of antibiotics with retinoids or benzoylperoxide are available. The Global Alliance recommends the use of effective combinations of topical retinoids plus topical antibiotics or other antimicrobial drugs, i.e. benzoylperoxide, from the very beginning. For systemic treatment of acne, antibiotics, isotretinoin, and oral antiandrogenic steroid hormones can be used. Tetracyclines, such as doxycycline and minocycline, are the most frequently used antibiotics for this indication. The duration of treatment investigated in controlled studies usually lasted 3 or more months. However, in practice, it is often necessary to maintain the treatment for a longer period of time. A combination with local treatment, e.g., benzoylperoxide, a topical retinoid, or azelaic acid, is often advisable. The introduction of oral isotretinoin has indeed revolutionized the treatment of severe forms of acne. This drug affects all pathogenic factors of acne and is still the most potent of medications available on the market. As long as topical antiandrogens are not fully working, the oral use of cyproterone acetate or chlormadinon acetate composed with etinylestradiol or spironolactone remains preferred treatment in women. Combination with a topical retinoid or azelaic acid is advised, or a combination of an oral antiandrogen and oral tetracyclin. This type of therapy affects the inflammatory lesions in earlier phase. Hopefully, our better understanding of cellular and molecular events in acne development will lead to more efficient treatments.

O 4

ETHNIC SKINS AND THEIR MANAGEMENT

M. Ramos-e-Silva, F. Addor

Sector of Dermatology and Postgraduation Course - HUCFF-UFRJ and School of Medicine, Universidade Federal do Rio de Janeiro, Rio de Janeiro; and Medcin, São Paulo, Brazil

Different color skins do not differ in color only. Each type of skin has specific characteristics, such as different responses in skin reparation, sebaceous secretion, skin width, fat distribution, and hydration. Common skin diseases and their histological features differ between Brazilian Blacks and Whites. The knowledge of these differences is useful for the correct diagnosis and treatment of problems like melasma, post-inflammatory hyperpigmentation, acne, or pseudofolliculitis barbae. Furthermore, hair shows many interesting variations. For example, white people tend to be more hirsute on the arms and legs and have greater tendency to baldness. On the other hand, curly and black hair in Blacks entails pseudofolliculitis barbae or acne cosmetica, which are in some aspects different from those found in people with fair skin. These variations should always be evaluated before any type of therapy is applied. There are also many social and cultural aspects that should be taken into account, beside the different evolution and scar formation.

1. THE ROLE OF LOCAL TREATMENT IN DERMATOLOGY

O 5

OPTIMIZATION OF THE TOPICAL THERAPY IN DERMATOLOGY

V. Milavec-Puretić, I. Lakoš Jukić

Department of Dermatology and Venerology, Zagreb University Hospital Center, Zagreb, Croatia

In the treatment of skin diseases, the advantage of topical dermatological medications over oral drugs is that high drug concentrations can be achieved at the site of pathology without prior systemic distribution. Many safe topical agents would

be toxic or lethal if oral or systemic routes were used to achieve the effective drug levels in the skin. Dermatological preparations may be used in the treatment of a wide range of conditions, including eczema, inflammatory diseases, viral diseases, fungal diseases, skin carcinomas, alopecia, burns, acne, and local pain. In addition, they may offer advantages in terms of easy application and patient compliance, and may provide additional advantages, such as cooling and abatement of localized inflammation and itching, and improved hydration. Optimization of topical therapy in dermatology requires knowledge of the various vehicles and when to employ them, understanding of the active ingredients, including their mechanism of action, and clear appreciation of the appropriate indications for the various products.

O 6

NEONATAL AND INFANT SKIN CARE

S. Murat-Sušić, K. Husar

Department of Dermatology and Venerology, Clinical Hospital Zagreb and University School of Medicine, Zagreb

Baby's skin is a source of admiration to the adults. The aims of optimal skin care are to maintain its smoothness and to decrease the chance of various skin diseases. Although there are some differences between the skin of neonates and infants and the skin of adults, these are not reflected in major functions of the organ. The skin acts as an interface between the child and the environment; it gives protection from dehydration, excessive water influx, and electrolyte losses. It is important in thermoregulation and antimicrobial defense and gives protection from environmental toxins, trauma, and ultraviolet radiation. It is also a tactile sensor organ. Infant's skin is subjected to different environmental conditions, particularly in the skin folds or the diaper area. The ratio of body surface area to weight in infants is up to 5 times that of adults. This is the major reason that places infants at increased risk of skin injury, percutaneous toxicity from topically applied agents, and percutaneous infection. The cosmetic market for children has developed enormously. According to statistical data, 8 skin care products are used on average for every-day skin care of infants in the USA. We present every-day skin care practices, including bathing, diapering, umbilical cord care, emolliation, as well as prevention and management of skin-barrier compromise.

O 7

EMOLLIENTS AS SOPHISTICATED THERAPY IN DERMATLOGY

I. Nola, K. Kostović, L. Kotrulja, L. Lugović

Department of Dermatology and Venerology, Sisters of Mercy University Hospital, Zagreb, Croatia

Emollients are agents designed to make the stratum corneum softer and more pliant, increasing its hydration. A large number of preparations are available, many of which are marketed as cosmetic and therapeutic moisturizers. They are the most prescribed products in dermatology. Their structure and function are surprisingly complex and sophisticated; many are equidistant between cosmetics and drugs. The use of the emollients corrects the problems in scaling disorders. Also, it is well known that the electrical properties of the stratum corneum are changed after application of an emollient. Literature data support the possibility of their suppressive effects on epidermal thickening. Emollients have an anti-inflammatory activity and also give some transient relief from irritation. In clinical use, emollients are employed as treatments for the ichthyoses, xeroderma, and other disorders of keratinization, atopic dermatitis, psoriasis, and photodamaged skin. Emollients of the new millennium include agents that mimic natural ingredients and function as botanicals, including vitamins, hydroxy acids, and retinoids. Emollients can cause a few side effects, such as irritant dermatitis, allergic contact dermatitis, fragrance allergy or allergy to other constituents (preservatives or additives), stinging, cosmetic acne, and pigmentary disorders. We can conclude that emollients are very important in the treatment of different dermatoses, and are evolving to ever more sophisticated products.

O 8

SUNSCREENS – THE ULTIMATE COSMETIC

R. Wolf[1], H. Matz[1,2], E. Orion[1]

[1]Kaplan Medical Center, Rechovot, [2]Tel-Aviv Sourasky Medical Center, Tel-Aviv, Israel

In spite of the sunscreen-melanoma controversy that has prevailed over recent years, sunscreens are and will remain the "ultimate" cosmetic. The essential properties of sunscreens, which include absorption spectrum, extinction coefficient, sun protection factor, and substantiveness, will be discussed, as well as some of the misunderstandings and confusion about the mode of action of physical (i.e. particulate and inorganic) sunscreens. For example, the inorganic metal oxides (ZnO and TiO_2) neither act as pure scatterers nor are they inert materials that do not undergo any chemical change while attenuating UV light. Rather, they mobilize electrons within their atomic structure and emit the energy in lower magnitude, and do so in exactly the same manner as organic sunscreens. However, although metal oxides can photocatalyze a number of functional changes and cause damage to cellular RNA, DNA, and proteins, the likelihood of the occurrence of these reactions is almost none when sunscreens are used. The reason is that metallic oxides do not penetrate the stratum corneum and thus do not come in contact with any living cells of the epidermis. Moreover, metallic oxides are coated by inorganic oxides (e.g., SiO_2 or Al_2O_3) and thus can not react with their surroundings, such as other components of the sunscreen itself and living tissues.

O 9

WHAT'S NEW IN TOPICAL THERAPY?

J. Lipozenčić

Department of Dermatology and Venerology, Zagreb University Hospital Center, Zagreb, Croatia

There is a paucity of laboratory research in commonly used local treatments, whereas particular attention is given to new local therapy options. New formulations, such as pimecrolimus, are being developed and implemented in the treatment of dermatological conditions. Pimecrolimus (0.2%; 0.6%; or 1% vehicle cream Eldiel®; ASK 981) may be used in the treatment of atopic dermatitis. This newer calcineurin inhibitor has an anti-inflammatory potential and has not been shown to induce skin atrophy. Pimecrolimus is closely related to tacrolimus. Tacrolimus and pimecrolimus share the same cellular binding targets and mechanism of action. Tacrolimus ointment (0.03% or 0.1% Protopic®), a topical inhibitor of the phosphatase calcineurin, has recently been approved in the USA for use in the treatment of moderate to severe forms of atopic dermatitis. It is the first non-steroid topical immune suppressant. Unlike glucocorticoids, tacrolimus cannot penetrate thick skin and does not cause dermal atrophy, which is an important advantage. Tacrolimus ointment for facial lesions of chronic actinic dermatitis seems to be effective and well-tolerated treatment. Because of its safety, tacrolimus will become generally preferred therapeutical agent in the treatment of facial dermatoses (psoriasis, seborrheic dermatitis, allergic contact dermatitis, and rosacea), alopecia areata, and lichen planus. However, topical steroids will remain more economical than tacrolimus because they are usually available as generics.

Lactic Care lotion (1% and 2%), the original Alphy Hydroxy lotion with a consistency of a cream, contains recognized humectants, lactic acid, and sodium PCA. It is a soothing emollient and moisturizer, excellent for dry skin care and for large body areas, where body hair is present. Although Lactic Care®-HC Lotion (1% and 2%) contains hydrocortisone, it is intended for patients of any age and safe for use even in children. It is ideal for the treatment of chronic conditions where a low potency steroid is indicated.

A fresh approach to actinic keratoses therapy – 0.5% fluoruracil cream, with 0.35% incorporated into a patented porus microsphere (Microspounge®-Pick CaracTM) – effectively reduces actinic keratoses and leads to rapid recovery of treatment-related irritation. It is also convenient because of once-a-day application. Carac® is contraindicated in women of fertile age, in patients with dihydropyrimidine dehydrogenase (DPD) enzyme deficiency, and in patients with known hypersensibility to any of its components. Diclofenac sodium-3% w/w topical gel (Salaraze® gel) is the first preparation of the new class of therapeuticals for actinic keratoses, used for complete lesion clearance.

A skin care product for medium depth treatment of sun damaged or unevenly pigmented skin is a patented new formula containing 20% TCA, 10%

L-Lactic polymer bleaching formula. It simultaneously inhibits pigmentation, bleaches melanin, and exfoliates the skin. It is applied in a layering technique (Ultra Peel® Forte, prescription only).

First tretinoin cream proven to reduce signs of photodamage, hyperpigmentation, and roughness of facial skin is tretinoin emollient cream 0.05% (Renova®), appropriate for use before and after cosmetic procedures. Tretinoin cream 0.02% (Renova®) is also available for patients with fine facial wrinkles, who use compressive skin care, avoid sunlight, and have lightly pigmented skin.

Anti-aging skin solution with 4% hydroquinone and 10% glycolic acid, stabilized with antioxidants L-ascorbic acid (vitamin C) and tocopherol (vitamin E), and broad-spectrum SPF 15 is cosmetically elegant formulation (Glyquin® cream) used for the gradual bleaching of hyperpigmented skin and conditions, such as chloasma, melasma, freckles, senile lentigines and other unwanted melanin hyperpigmentation.

Acne treatment fluid, the first product of the innovative care line for skin prone to acne, belongs to a new generation of keratolytic skin therapeuticals (Effaclar K®). Formulated by pharmaceutical laboratory, it contains natural thermal spring water and 1.5% salicylic acid, both intended for oily skin care and gentle enough for everyday use. It leaves pleasant, non-oily feel on the skin. Benzoyl peroxide in concentrations of 2-5% is still the gold standard in the treatment of mild-to-moderate papular-pustular acne. Azelaic acid is an alternative agent with anticomedonic effect and antibacterial activity that does not induce resistance. Physical removal of multiple, densely packed, closed comedones can be done by electrocautery or CO_2 laser. In the group of topical antimicrobials in an aqueous-based gel for acne treatment, a combination of clindamycin 1% and benzoyl peroxide 5% (Benzallin™ topical gel) works better than either clindamycin or benzoyl peroxide alone. It is convenient and the only FDA-approved combination for the topical treatment of acne. Tazarotene 0.1% cream (Tazorac®) is indicated for the 4-week topical treatment of acne vulgaris; it significantly reduces open and closed comedones as well as inflammatory acne, and has effects comparable to those of Differin® gel 0.1%, as shown in a 4-week study in healthy volunteers. Adapalene (Differin®), available in the form of gel, cream, solution, or pledgets 0.1%, is a topical retinoid of proven tolerability in a broad range of patients. Multiple formulations provide a full range of therapeutic options.

For external genital and perianal warts (condylomata), the first and only self-applied immune response modifier is imiquimod-5% Aldara® cream. It increases cytokine (interferon α) production and reduces DNA of human papilloma virus, e.g., 6 and 11, which are the subtypes most commonly associated with external genital warts. It is used at bedtime every other day (3 times per week) and needs to be washed off in the morning. The average patient may need a few treatments to clear genital warts. However, despite the treatment, warts may recur.

Metronidazole (Metrogel®) topical gel 0.75% is a fast-acting and powerful agent for treatment of rosacea, and clinically proven to provide long-term control. Three formulations are available to meet the treatment goals: Metrogel®, a soothing, water-based formula; Metro Cream®, a moisturizing formula; and Metro Lotio®, an elegant easy-to-apply lotion indicated for topical application in the treatment of rosacea inflammatory papules and pustules.

Fluocinolone acetonide topical shampoo 0.01% (Capex™ shampoo) is a unique steroid treatment in a shampoo delivery system for seborrheic dermatitis of the scalp. It reduces inflammatory and pruritic components of seborrheic dermatitis. It should be applied once a week for maintenance therapy. Sodium sulfacetamide 10% wash (Ovace wash) is an effective prescription treatment for skin cleansing, applied daily or once or twice a week to prevent recurrence of seborrheic dermatitis.

Ciclopirox topical solution 8% (Penlac™ nail lacquer) for nail infection is the first and only FDA-approved topical prescription treatment for treatment of mild and moderate onychomycosis in a convenient brush-on option. Penlac™ is indicated in immunocompetent patients with onychomycosis of fingernails and toenails due to *Trychophyton* spp.

Physical sunscreens (zinc oxyde, titanium dioxyde, and magnesium silicate) are made in micronised forms and block ultraviolet radiation. Chemical sunscreens, such as paraaminobenzoic acid

(PABA), PABA esters, salicylates, cinnamates, anthranilates, and benzophenones, act by absorbing UVB and UVA.

Synthetic detergents (syndet) in bars are composed of synthetic detergents and filters that contain less than 10% soap and have an adjusted pH at 5.5-7. Syndets have distinct advantages over alkaline soaps because they are suitable for skin with weakened alkali-reducing capacity.

O 10

THE PROJECT OF CONSUMER ATTITUDES TOWARD COSMETIC PRODUCTS AND THEIR APPLICATIONS IN BALKANIAN COUNTRIES

C. R. Celebi

Consultant Dermatologist, Ankara, Turkey

The Balkan States are potentially important market for cosmetic industry. However, consumer attitudes toward cosmetic products have never been investigated and documented in this region. This research aims at assessing the profile of consumers in each Balkan State with respect to cosmetic products by use of a standard survey. The data are still being collected.

O 11

PHOTOAGING – MYTHS AND FACTS

M. Ramos-e-Silva

Sector of Dermatology and Postgraduation Course – HUCFF-UFRJ and School of Medicine, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil

Myths and facts related to photoaging are sometimes confusing, so this presentation will deal with what we know and what we suspect about it. Some controversial aspects about the pathogenesis, clinics, histology, prevention, and treatment of photoaging will be discussed. Because sun exposure can cause acute and long-term consequences, the characteristics of the solar spectrum, its various degree of penetration, and beneficial and harmful effects will be considered. For both photoaging and photocarcinogenesis, it is sometimes necessary to prescribe topical, oral, and/or surgical measures, after weighing the advantages and disadvantages of each method of treatment. There are important differences between photoaging and chronological skin aging. The fact that more than 80% of the changes result from excessive sun exposure makes prevention the best therapy.

S 1

UPDATE ON EXTEMPORANEOUS PRESCRIPTIONS IN DERMATOLOGY

M. Gloor

Spirig Pharma, Karlsruhe Department of Dermatology, Karlsruhe, Germany

Extemporaneous prescriptions should be preferred over ready-made preparations only when the targeted therapeutic purpose cannot be achieved with a speciality. This is often the case in daily practice: frequently the application of extemporaneous prescriptions is necessary because the vehicle of the ready-made preparation is not suited for the corresponding indication. This is particularly true for atopic eczema, with its impaired stratum corneum barrier. Because of the barrier damaging effect of oil in water emulsions, only water in oil emulsions or oil in water emulsions with a moisturizer may be used. Another important reason for the use of extemporaneous prescriptions may be the fact that the ready-made preparation might only be available with an active in one or maybe two concentrations. On the other hand, the penetration of the active at different localization of the body and depending on the state of the horny layer barrier can differ by a factor of 100. For dermocorticosteroids, for example, the concentration of the active should be strongly individualized accordingly. Some actives or active combinations necessary to the dermatologists are not available in suited vehicles or are not available at all. This is particularly true for classical actives like tar, liquor carbonis detergents, and sulfur, but also the antibiotic Polymycin B sulphate that cannot be replaced because of its outstanding action against Gram negative bacteria, particularly Pseudomonas. Another example is retinoid acid used by the dermatologist in case of prematurely aged skin, lichen ruber, and psoriasis. Here, water in oil emulsion is needed. The speciality, on the

other hand, is only available in hydrophilic vehicles adjusted to the acne therapy.

Some important modern principles of therapy may not be realized with ready-made preparations. Examples are the application of antiseptics like chlorhexidindigluconat and particularly triclosan as a replacement for antibiotics. A therapy with antiseptics has large advantages because of the lack of induction of resistance. This is in particular true for the well-established coloring agents, Fuchsin and Gentianaviolet (methylrosaniliumchlorid). These actives show an extremely broad antimicrobial spectrum not only against Gram positive and Gram negative germs, but also against fungi. They are thus necessary in case of mixed infections (e.g., Gram negative infection of the foot, so-called athlete's foot).

In some cases, the pricing might be another reason to prefer extemporaneous prescriptions, e.g., in Germany, topical minoxidil or shampoos containing ketoconazole.

In many countries, well-documented vehicles from industrial companies are available aside the official standard bases. Due to such a wide choice of differentiated products, various clinical situations can be adequately targeted. In the context of quality assurance of extemporaneous prescriptions, the following requirements should be met: 1) documentation of the galenical compatibility with appropriate actives over 8 weeks; 2) documentation of the chemical stability of the active over the same period; 3) information about the skin physiological properties of the different vehicles; and 4) high microbiological resistance (risk of contamination while preparing the mixture in the pharmacy). In selected cases, there should be documentation available on the liberation and the penetration into the skin, as well as on the clinical efficacy. These requirements are met for many prescriptions by the vehicles in the range of excipients.

2. THERAPY OF INFLAMMATORY SKIN DISEASES

O 12

NEW APPROACHES IN TREATMENT OF ATOPIC ECZEMA

J. Ring, U. Darsow

Department of Dermatology and Allergy, Biederstein, Technical University Munich, Germany

Atopic eczema is a chronic inflammatory skin disease characterized by recurrent intense pruritus, typical age-related distribution of the changes, and skin morphology. Therapy is based on a combination of appropriate topical anti-inflammatory, antibacterial, and emollient treatment as well as patient education ("patient management"). The development of topical corticosteroids with improved risk/benefit ratio (e.g., prednicarbate, momethasone furoate or methylprednisolone aceponate) has led to significantly better results in the long-term management of atopic eczema. A progress in UV-therapy of atopic eczema has been achieved with long-wave UVA-1 ("cold light"). A new group of anti-inflammatory drugs for topical use are calcineurin-inhibitors, such as tacrolimus and pimecrolimus. They inhibit the T cell-dependent inflammatory response and the release of cytokines without causing skin atrophy or systemic side effects. Different lipophilic characteristics of these compounds are responsible for their different affinity to the skin and distinct therapeutical affects. However, further clinical studies on the long-term safety of these drugs are necessary. The role of allergy in eliciting and maintaining the eczematous skin lesions is still controversial, but the observation of IgE on Langerhans' cells of patients with atopic eczema, the benefit from allergen avoidance, and the eczematous lesions that can be induced in such patients with the atopy patch test (APT) give rise to a reappraisal of allergen-specific approaches to treatment. Allergen-specific immunotherapy (hyposensitization) may be used as a therapy for atopic eczema, but there is still not enough evidence for a general recommendation. Immunomodulatory approaches may prove effective, including anti-IgE, soluble interleukin-4 receptor, and antibodies to adhesion molecules or co-stimulatory molecules. Furthermore, the development is expected of new antagonists and synthesis inhibitors of mediators of inflammation.

O 13

THREE STUDIES IN PEDIATRIC AND ADULT PATIENTS DEMONSTRATE THAT

TACROLIMUS OINTMENT IS SAFE AND EFFECTIVE IN THE TREATMENT OF ATOPIC DERMATITIS

I. Lawrence

Fujisawa Healthcare, Inc., Deerfield, IL, USA

Data from two trials involving 8,722 adult and pediatric patients with atopic dermatitis who applied 0.03% or 0.1% tacrolimus ointment twice daily, continuously or intermittently for up to 4 years, were combined and analyzed. Additionally, the potential effect of tacrolimus ointment on the immune system was evaluated in 23 eczematous children 2 to 12 years of age who applied 0.03% tacrolimus ointment twice daily for a total of 7 weeks. Patients were vaccinated with Pneumovax® (pneumococcal vaccine) during the third week of treatment. In the 7-week study, there were no clinically significant changes in CBC, lymphocyte subsets, CD4/CD8 ratio, immunoglobulin levels, or tetanus and *H. influenzae* antibody titers. All patients developed a protective antibody response to at least one pneumococcal serotype. Significant improvement was observed early in treatment ($p<0.001$) and continued throughout the long-term studies. The risk of adverse events, including infections, did not increase with long-term use of tacrolimus ointment. Tacrolimus ointment has no systemic immunosuppressive effect; its immunomodulatory effect is limited to the skin. Tacrolimus ointment monotherapy is safe, and its effectiveness is maintained even with long-term use. It may be a drug of choice for long-term treatment of atopic dermatitis.

O 14

UV COMBINED THERAPY OF PSORIASIS

F. Kokelj, G. Trevisan

Institute of Dermatology, University of Trieste, Trieste, Italy

Most clinical studies on the treatment of psoriasis concern a monotherapeutical approach, which is of interest to pharmaceutical companies. On the other hand, it is well known that the best clinical results in the treatment of this disease are usually obtained through the combination of different methods: topical-topical, systemic-topical, and UV-topical. In recent years, numerous studies have emphasized the importance of the different treatment combinations. We report on our experience with UVB and PUVA combined with different topical (calciportiol and tacalcitol) and systemic (retinoids and cyclosporine) drugs.

O 15

A NEW COMBINATION IN LOCAL TREATMENT FOR PSORIASIS VULGARIS

V. Kuzmanovska, L. Biserkoska-Atanasovska[1]

Medical Center, Kumanovo, [1]Health Care Center, Skopje, Former Yugoslav Republic of Macedonia

We present positive effects of a topical combination treatment for psoriasis vulgaris in outpatient settings. Forty-six patients who visited our outpatient clinics in a one-year period were included in the study. They underwent the combination treatment that involved application of a keratolytic agent in the morning and a preparation by Galenik laboratory in the evening. The keratolytic treatment consisted of fluorinized corticosteroid (bethamethason-dipropionat) combined with salicylic acid, i.e. Belosalic® ointment. For the evening treatment, the preparation made by Galenik laboratory was used, consisting of Garamycin® (antibiotic), Plivit AD® solution (vitamins A and D), lanolin, and vaseline (D3). All 46 patients were treated with the combination therapy for 14 days. After that, the treatment was continued as a D3 monotherapy for three more weeks. First effects were visible after 7-10 days of treatment. After one month of therapy, scratching and hyperkeratosis diminished, and the ill skin became softer, remaining only slightly hyperpigmented in comparison with healthy skin. The attitude that ”psoriasis never heals, but never kills, either” should further be challenged and the development of new therapy combinations that could give satisfactory results in the treatment of psoriasis vulgaris should be pursued.

O 16

PSORIASIS VULGARIS ET ARTHRITIS PSORIATICA GRAVIS MUTILANS – CASE REPORT

P. Vržogić, A. Pašić[1], T. Podobnik-Takač, J. Lipozenčić[1]

Naftalan Special Hospital for Medical Rehabilitation, Ivanić Grad, [1]Department of Dermatology and Venerology, Zagreb University Hospital Center, Zagreb, Croatia

We present a case of a patient with psoriasis vulgaris type I and very early development of psoriatic arthritis to point to the need for locomotor system screening in patients with either type I or type II psoriasis. Family history revealed that the patient's mother also suffered from psoriasis and was operated on for carcinoma of the uterus. The patient's father was an alcoholic. Younger brother was healthy. The patient had no severe disease in his personal history. His disease started at age 23, with the appearance of typical psoriatic lesions on the scalp. After 2-3 months, he developed swelling of the interphalangeal finger joints, interphalangeal foot joints, ankle joint, and knee joint, with fever of up to 38°C. The cutaneous and joint lesions worsened over the years, resulting in generalized psoriasis and mutilating arthritis. The onset of vulgar psoriasis type I in our patient was associated with HLA DR7 and DR6. The disease assumed a very severe course, with skin lesions paralleled by joint alterations. During the 10-year period, the values of ESR ranged from 80 to 110. The patient was administered various drug therapies, which could be properly traced from his medical records. The patient did not comply with therapeutic recommendations (potus in initial history). Eventually, Methotrexate® (methotrexate) 7.5 mg/week was applied, with transaminase, ESR, and CBC control every 2 weeks. He used Lubor® (piroxicam) 20 mg 1×1, Praxiten® 15 2×1 tbl daily, and Tramal® as needed.

This case points to the importance of early diagnosis of joint involvement in psoriasis vulgaris and its timely treatment, with individualized approach along with proper education of these patients to prevent permanent debilitating lesions. Unfortunately, unfavorable personality profile of our patient contributed to the poor outcome of his disease.

O 17

LOCAL THERAPY OF PSORIASIS VULGARIS – HISTORICAL REVIEW

Z. Jukić, V. Barišić-Druško, I. Ručević, N. Šustić, D. Biljan, A. Ageel, R. Vukadin

Department of Dermatology, Osijek University Hospital Center, Osijek, Croatia

Topical therapy is the first line treatment for psoriasis and important part of the treatment of psoriasis in general. It is still a topic of great interest to dermatologists. We present a historical review of topicals used in the treatment of psoriasis vulgaris up to the present times, including emollients, keratolytics, corticosteroids, coal tar, anthralin, calcipotriene, and tazarotene.

O 18

THE LIGHT IN THE TREATMENT OF DERMATOSES

A. Pašić, R. Čeović, D. Hrsan

Department of Dermatology and Venerology, Zagreb University Hospital Center, Zagreb, Croatia

During the past 25 years, phototherapy has greatly influenced treatment concepts in dermatology. Photomedicine has developed from empiricism into one of the most exciting fields in biomedical research. Phototherapy may be regarded as a prime example of applied skin biology. UV radiation has been used for decades in the treatment of common skin diseases, such as psoriasis and atopic dermatitis. The introduction of PUVA in the mid-1970s was a driving force for a whole new series of discoveries during the following two decades. The introduction of a selective spectrum in the UVB and UVA range, such as narrow-band UVB and UVA1 phototherapy, as well as the inclusion a new indications, has stimulated the interest in photodermatology. Visible light in combination with photosensitizers is currently in use for diagnosis and treatment of some types of tumors. Extracorporeal phototherapy is effective in the treatment of skin lymphomas as well as in transplantation medicine. As professor Fitzpatrick said, present day phototherapy is comparable to the use of X-radiation therapy in dermatology, with special hardware, selection of patients, and need for careful and precise dosimetry.

3. TREATMENT OF VIRAL, BACTERIAL, PARASITIC DISEASES AND SEXUALLY TRANSMITTED INFECTIONS

O 19

UNUSUAL CASES OF IMMUNODERMATOLOGIC DISEASES: RETROVIRAL BACKGROUND?

A. Horváth, K. Nagy

National Institute of Dermatovenerology, Budapest, Hungary

Exogenous infection by human retroviruses induces local and/or systemic eosinophilia, with various forms of dermatoses and immunological disorders as a consequence of either direct or indirect (cytokine promoter) expression of viral genetic elements. Human T-cell lymphotrophic virus (HTLV-1) has been etiologically associated with adult T-cell lymphoma/leukemia (ATL), tropical spastic paraparesis (TSP), dermatomyositis, and infective dermatitis (ID), all accompanied with abnormalities of immune function. The role of HTLV-1 in the development and progression of cutaneous T-cell lymphoma, mycosis fungoides, and Sezary syndrome has not been clearly established. We investigated the possibility of HTLV infection in patients with various dermatoses and eosinophilia. We screened 440 patients with cell-proliferative diseases and/or dermatoses and healthy donors for serum antibody to HTLV, using IIF and ELISA. DNA samples of skin lesions and lymphocytes from 50 patients were analyzed by polymerase chain reaction (PCR) amplifying 158 bp segment of 3' tax and 210 bp (1323-1442) conserved fragment of gag of HTLV-1. Amplified PCR products were inserted in a pGEM vector and cloned in *E. coli* XLI-Blue strain. GM-CSF, IL-3, IL-5, and Eotaxin in the sera of patients were quantitatively determined by use of ELISA. T-cell receptor gene rearrangement was analyzed by Vg and Jg primers. Antibodies to HTLV-1 in patients with various malignancies and dermatological disorders were analyzed by IIF. No confirmed exogenous infection was found. However, molecular detection by PCR indicated the presence of HTLV-related DNA sequences in patients with dermatoses and eosinophilia. HTLV-related DNA sequences were detected in lymphoreticular proliferations more frequently (62%) than in bullous dermatoses (17%) and inflammatory diseases (16%). DNA hybridization data as well as nucleotide sequence analysis identified retroviral elements homologous (>95%) to HTLV-1 gag. We found no homology higher than 5% to related sequences, including several known endogenous human retroviruses. Among the eosinophil chemotactic factors, GM-CSF was increased in cultured lymphocytes stimulated by IL-2 in 4% of patients. Increased serum concentrations of IL-5 and Eotaxin could be detected in 50% and 32% of patients, respectively. No increase in IL-3 was observed. It is assumed that in Hungary, where direct evidence of exogenous HTLV infection has not yet been confirmed, restricted expression of HTLV-related retroviral sequences or defective HTLV-1 proviruses with internal deletions are involved in the progression of diseases with altered immunological responsiveness. Moreover, HTLV-1 tax could transactivate gene(s) of various eosinophilic chemotactic factors (GM-CSF, IL-5, or Eotaxin), which might result in reactive local and/or systemic eosinophilia.

(Study supported by OTKA Grant T 034804)

O 20

SYPHILIS IN EUROPE SETTING THE SCENE

M. Waugh

General Infirmary, Leeds, England

Croatia was known for areas of endemic syphilis in the past. Our teachers F. Gruber and Z. Zupanec Slavec have reported and written extensively about Skerljevo disease around Inner Carniola, the Karst, and in Fiume (Rijeka) in the 18th and 19th centuries. It is only just over 50 years ago that the last great public health effort on endemic syphilis in Europe was finished. Endemic syphilis had occurred in the Balkans since the Ottoman incursions and although the public health authorities of Austria-Hungary and the subsequent kingdom of Yugoslavia provided epidemiological data, it was not until penicillin that a cure could be offered. From 1948, the Yugoslav health administration together with World Health Organization developed a nation wide syphilis control program. By the end of 1952, 1,472,402 persons had been examined of whom 90,235 were treated with penicillin. Grin noted that endemic syphilis acquired in childhood often had more seri-

ous effects than it had been realized, not only gummata, but also all forms of neurological and cardiovascular manifestations, which were under-recorded, though, as cases occurred in rural areas.

Since the fall of Soviet communism around 1990, Europe has been going through a period of great change. After that period, there was a vast increase in early infectious syphilis not only in Russia, but also in the Baltic countries, Ukraine, and the states of the Caucasus. There was also an increase in congenital syphilis. While the main part of the epidemic has now finished, there is evidence that HIV infection and tuberculosis are increasingly frequent in Russia. There have been reports of a small but significant rise in early syphilis throughout eastern and central Europe, i.e. Poland, Hungary, Bulgaria, and Slovenia. After very low incidence of syphilis in the Western world after 1948, there was an increase around 1970 in homosexual men. However, with the advent of AIDS, the levels dropped. In recent years after the introduction of highly active antiretroviral treatment, there has been a rise of risky sexual practices especially in homosexual men, many of whom HIV-infected. A rise in early syphilis in this group has been reported from England, Germany, Amsterdam, and Paris. There has probably been a rise in early syphilis in heterosexuals as well, often due to prostitution. There is an increase in syphilis seen in immigrants from Africa, their public health concerns being of large impact into Europe. Regarding the limitations of the variety of serologic tests for syphilis, FTA-ABS is still being the gold standard. One of the greats in venereal diseases, Thomas Turner, who died in 2002, stated that "with AIDS infection burgeoning all round the world, its suppression of immunity, and tissue reaction often permits Treponema to swarm in scarcely noticeable lesions." There has been much controversy since the advent of HIV that regimens for treatment of syphilis are enough. Some hold that the evidence is contradictory and most physicians would still recommend the same treatment as in non-HIV cases, but with more assiduous follow-up. Syphilis remains a challenge in its basic molecular biology, immunological responses, affects on population, treatment, and control.

O 21

SCABIES: THE DIAGNOSIS OF ATYPICAL CASES AND THEIR TREATMENT

R. Wolf[1], H. Matz[1,2], E. Orion[1]

[1]Kaplan Medical Center, Rechovot, [2]Tel-Aviv Sourasky Medical Center, Tel-Aviv, Israel

Scabies, an ancient disease of mankind, is believed to occur in 30-year cycles and is currently pandemic in most parts of the world. Contemporary scabies outbreaks are characterized by a higher proportion of atypical cases and the development of drug resistance. We present a collection of atypical cases and discuss the various diagnostic methods for this condition to provide the clinicians at the "frontline" with some effective tools to cope better with difficult and resistant cases.

O 22

ANTIBIOTIC RESISTANCE IN GONOCOCCAL INFECTION

A. Stary

Outpatient Center for Diagnosis of Infectious Venerodermatological Diseases, Graz, Austria

Key trends in the epidemiology of sexually transmitted infections (STI) in Europe and the USA show an increase in rates of reportable bacterial infections, such as gonorrhea, syphilis, and chlamydial infections. In addition, the number of antibiotic-resistant gonorrhea has increased in many countries, leading to a change in the management strategy for gonococcal infections. Recent data have shown that quinolone-resistant *N. gonorrheae* (QRNG) continues to spread not only in Asia and the Pacific, but also in parts of the United States (West Coast) and many European countries. Penicillin resistance is widespread and increasingly observed in Asian, Caribbean, and African countries as well as Europe, with a percentage of up to 30%. Elevated MICs to azithromycin raise concerns about its recommendation for gonococcal treatment. An increase of gonococcal infections has also been observed in Austria in the 1999-2002 period. In three main Centers for Diagnosis of Sexually Transmitted Infections (STI), a 3.7-fold increase from 123 cases in 1999 up to 575 infections in 2002 was observed in patients screened for gonorrhea and other STIs.

During this period, almost a 10-fold increase of QRNG was observed from 3.9% to 33.6%, followed by a 5-fold increase of penicillin resistant strains. In contrast, resistance against cephalosporines and macrolides was found only in few cases. The increasing resistance of *N. gonorrheae* to quinolones and other antibiotics emphasizes the need for the performance of gonococcal culture, to examine the resistance profile of these microorganisms before treatment. Furthermore, recommended management guidelines for gonococcal infections in the USA, Europe, and Austria have to be changed according to the resistance proof.

O 23

SIDE EFFECTS OF DIFFERENT TREATMENT METHODS FOR ANOGENITAL WARTS

M. Potočnik

Department of Dermatovenerology, Ljubljana University Medical Center, Ljubljana, Slovenia

Genital infections with human papilloma virus (HPV) are the most frequent viral sexually transmitted disease. In most cases, the infection takes a latent course without clinical manifestations. Epidemiological data from the United States show that only 1% of the sexually active population presents with anogenital warts, whereas as many as 5-20% are infected with HPV. The epidemiological data for Slovenia are not quite reliable, but an increasing trend is observed. Most anogenital warts are seen in young adults, with the highest prevalence in women under 25 years of age. External anogenital warts in men are mainly located on the penile shaft and the perianal area. An effective treatment of the disease is of great importance from the medical, psychological, and economic point of view. To date, none of the common treatments have been proven to be curative. A wide range of therapies is available for the treatment of anogenital warts (electrocoagulation, cryotherapy, excision, lasers, trichloroacetic acid, podophyllin, podophyllotoxin, interferon, and imiquimod). Both ablative methods and drug treatments may remove anogenital warts in high percentage of cases, but recurrences may be expected in about 30-60%, requiring retreatment. We observed and compared the side effects of all mentioned methods. Electrocoagulation, excision, and laser method are accompanied with pain and allergic reaction to local anesthetics. Cryotherapy is also accompanied with pain; trichloroacetic acid produces ulcers and scarring; podophyllin causes itching, burning, pain, swelling, and ulcers; podophyllotoxin causes burning, tenderness, erythema, and erosions; intralesional interferon is accompanied with pain, and imiquimod with burning, pruritus, irritation, and pain. None of the treatment methods eradicates the virus, none is completely effective, and none is free of side effects. The choice of therapy depends on the morphology and extent of the warts, available resources, the experience of the health care provider, and the preferences of the patient.

4. TREATMENTS AND MISTREATMENTS IN COSMETOLOGY

O 24

MELASMA: ITS CAUSATION AND TREATMENT

H. Nakayama

Nakayama Dermatology Clinic, Tokyo, Japan

Facial pigmentary disorders among middle-aged women include melasma, pigmented cosmetic dermatitis (PCD), solar lentigo, and nevus of Ota. Today, solar lentigo and nevus of Ota can be cured by laser surgery, as opposed to melasma and PCD for which other treatment approaches are required. Melasma is non-inflammatory, brown hyperpigmentation of the facial skin, caused by hyperproduction and accumulation of melanin pigments in the basal cell layer of the epidermis. The proliferation of melanocytes is not remarkable. When abundant incontinentia pigmenti histologica is present, the possibility of PCD should be considered, as the destruction of basal layer cells by cosmetic allergy results in this type of reaction. The causative allergens can be determined by patch testing with cosmetic series patch test allergens, and PCD can be cured completely by the long-term usage of cosmetics and soaps that do not contain the allergens responsible for the patient's problem. This treatment is called allergen control.

Melasma, on the other hand, does not develop due to an allergic process but rather to hyperexcretion of progesterone in the luteal phases. Based on the results of analysis of various female hormones in the ovarial and luteal phases in patients with melasma and their age- and sex-matched controls, only progesterone showed remarkable and statistically significant differences between the two groups. As many as 20% of melasma patients showed remarkable UVB hypersensitivity, with long-lasting brown hyperpigmentation resulting from a single irradiation of MQD in normal persons. No increase in porphyrins or effects of medicaments were exhibited. Long-term application of whitening cream is a recommendable treatment. The effectiveness of 1-% kojic acid cream was 85% during one- to two-year follow-up, without any systemic side effects.

O 25

TOPICAL CORTICOSTEROIDS: OLD AND NEW GUIDELINES

A. D. Katsambas

University of Athens, Athens, Greece

Treatment with topical corticosteroids has improved enormously in the past few years. The variety of new formulations and the differences in their properties offer a wide choice of compounds for better results. Moreover, the demands placed on new topical corticosteroids are very high. At the same time, public fear of the use and abuse of corticosteroids has increased greatly. To meet the dermatological needs, corticosteroids should have high local potency and no systematic and local side effect. If the physician carefully monitors the use of corticosteroids, the systemic unwanted effects are almost non-existing and the local side effects, especially thinning of the skin, are minimal. Treatment with topical corticosteroids can be successful and safe if the following points have been considered before the treatment: diagnosis, age of the patient, anatomical site of the disease, skin condition, frequency of application, amount of application, duration of treatment, appropriate vehicle, and potential adverse reactions. When large areas are treated, systemic side effects must be considered. Finally, corticophobia must be addressed by careful discussion to maximize compliance.

O 26

PRO ET CONTRA TOPICAL CORTICOSTEROIDS ON THE FACE

A. Basta-Juzbašić

Department of Dermatology and Venerology, Zagreb University Hospital Center, Zagreb, Croatia

Topical corticosteroids are effective in many skin diseases because of their anti-inflammatory and immunosuppressive action. These therapeutical effects result from vasoconstriction, reduction of membrane permeability, suppression of mitotic activity, and immune response. Application of topical corticosteroids on the face is indicated as a short-term treatment for non-infectious dermatoses, including contact allergic and non allergic dermatitis, atopic dermatitis, phototoxic reactions (including polymorphic light eruptions), insect stings, mild to moderate psoriasis of the face, pemphigus vulgaris, pemphigoid bullosus as well as discoid and systemic erythematodes and sarcoidosis. When the favorable response occurs, the frequency of application should be reduced to the minimum necessary, and the treatment should be stopped as soon as possible to avoid possible side effects. However, topical corticosteroids are mainly applied for seborrheic dermatitis and rosacea, but also for acne vulgaris, unrecognized dermatomycosis, cosmetic and other reasons sometimes uncontrolled for many months or even years. This long-term use causes many side effects resulting in facial dermatitis resembling rosacea, with diffuse erythema, teleangiectasias, papules, and pustules developing in three type of distribution: perioral, centrofacial, and diffuse. The majority of patients are women, but there are also more and more men and children among the patients. Treatment of choice in these patients is neutral topical therapy, combined with peroral tetracycline in severe cases.

O 27

CONTACT SENSITIVITY IN FACIAL DERMATITIS

S. Ljubojević, J. Lipozenčić. A. Basta-Juzbašić, V. Milavec-Puretić

Department of Dermatology and Venerology, Zagreb University Hospital Center, Zagreb, Croatia

Facial dermatitis may result from allergic or irritant contact dermatitis to cosmetics, local creams, and ointments, as well as from endogenous conditions, such as atopic or seborrheic dermatitis, or combinations of many other factors. The aim of our study was to determine the frequency of positive patch test reactions in patients with facial dermatitis. Patch testing to standard series was performed on 322 patients according to recommendations of the International Contact Dermatitis Research Group (ICDRG). All patients were tested in the Allergy outpatient clinic of Department of Dermatology and Venerology, Zagreb University Hospital Center, between 1999 and 2002. We included 4 patients with acne vulgaris, 13 with blepharoconjunctivitis, 82 with allergic contact dermatitis, 15 with irritant contact dermatitis, 13 with lip and 21 with perioral involvement, 20 patients with atopic dermatitis, 91 with seborrheic dermatitis, 11 with rosaceiform steroid dermatitis, and 4 patients with rosacea. There were 60 (19%) men and 262 (81%) women. The mean age of the patients was 41 years. Of the 322 patch-tested patients, 131 (41%) were negative, whereas 191 (59%) were positive, mainly to nickel sulphate (77 or 24%), cobalt chloride (60 or 19%), carba mix (49 or 15%), fragrance mix (41 or 13%), neomycin-sulphate (31 or 10%), and detergents (31 or 11%). Allergic contact dermatitis is a frequent cause of facial dermatitis. Personal care products, preservatives, and fragrances represent the most common allergens in patients diagnosed with allergic contact dermatitis. Our recommendation is to perform patch test to all patients with facial dermatitis who have constantly eczematous skin that shows no improvement or even deteriorates during conventional therapy. A significant number of relevant allergic reactions would be missed if patch test to standard series were not performed.

O 28

COSMETICS AND ACNE VULGARIS

L. Oremović, I. Sjerobabski Masnec, L. Lugović, G. Novak Bilić

Department of Dermatology and Venerology, Sisters of Mercy University Hospital, Zagreb, Croatia

Acne vulgaris is a multifactorial disease and the most frequent reason of consultations in dermatology. Three main factors are responsible for appearance of acne: hyperseborrhea, infundibular keratinization disorders with the formation of a comedos, and inflammatory disorders. Patients turn to dermatologists not only for therapy, but also for help in choosing cosmetics products that would be most appropriate for their skin and for instructions on how to use them. Cosmetics and skin care products have become integral and even essential part of daily care in acne patients. Cosmetics appropriate for use in patients with acne must be non-comedogenic, non-acnegenic, nonirritating, and hypoallergenic.

The products at the borderline between drugs and cosmetics are called cosmeceuticals. They are generally topical, innovative, bio-active skin care products containing pharmacologically active ingredients which can penetrate the stratum corneum and be delivered in sufficient concentrations to the intended target in the epidermis and dermis. They improve cosmetic appearance of the skin and influence functional processes by providing pharmaceutical benefits. Skin hygiene and care is a modulatory component to any effective acne therapeutic regimen. Cosmeceuticals include keratolytics, antimicrobial agents, moisturizers, camouflage products, and sunscreen agents. Cosmetic products are an important supplement in the anti-acne therapy. They can reduce the predisposition to the development of comedones as well as shiny appearance and acne lesions. The quantity of product used and cleansing regimen should be adjusted to the needs of individual patient.

O 29

SIDE EFFECTS OF LOCAL GLUOCORTICOSTEROID THERAPY ON THE SKIN OF THE FACE

N. Arslanagić, R. Arslanagić

Dermatovenereological Clinic, Sarajevo, Bosnia and Herzegovina

Glucocorticosteroids have revolutionized topical therapy of many dermatoses. Today, there are many different topical preparations containing glucocorticosteroids at our disposal. Although mechanisms of action of corticosteroids are symptomatic, which implies they cannot cure the disease, they greatly diminish or totally eliminate morphological symptoms of disease if indications for their use are followed. Caution with topical glucocorticosteroids is augmented when facial skin is treated due to external weather factors, with cosmetic and other applied hygienic products. Long-term usage causes side effects, such as erythema, papular or papulopustular eruptions, teleangiectasia, and epidermal thinning. Most common mycotic superinfections are caused by *Candida* species. As our overview of inadequate application of corticosteroids has shown, complications are mostly due to inadequate indications, misuse of therapy, ignorance of side effects by the therapist, or self-medication by some patients. Our patients applied steroids from several weeks to several years. The majority were women. Glucocorticosteroids were applied mainly for seborrheic dermatitis, dermatitis perioralis, rosacea, but also for unrecognized dermatosis, and even dermatomycosis. We believe that most complications could have been avoided if corticosteroid preparations were not easily available as over the counter (OTC) drugs. To prevent these unfortunate conditions, corticosteroids should be administered by a professional following exact guidelines for their use.

O 30

LASERS IN DERMATOLOGY – PAST, PRESENT AND FUTURE

V. Hegyi, L. Hegyiova

Department of Pediatric Dermatovenerology, Comenius University School of Medicine and Medicina Correctiva, Bratislava, Slovak Republic

Lasers are capable of producing intense monochromatic light in a very short time. Light produced by low-power lasers may stimulate the tissue, whereas light produced by high-power lasers may cause tissue destruction. Introduction of new types of lasers has allowed dermatological surgeons to treat previously untreatable diseases. First lasers used in dermatology were CO_2 and argon lasers in the early 1980s. Today, dermatological surgeons use advanced laser systems under strict precautions to achieve the best therapeutic and cosmetic results. Among these laser systems, ultrapulse CO_2 laser, Er-YAG laser, Nd-YAG laser, and diode laser are often used. A universal laser capable of treating different skin conditions still does not exist. Only advanced and powerful lasers operated by skilled professionals allow us to achieve the best possible therapeutic results. By increasing the knowledge of skin optics, dermatologists can more clearly understand the light-tissue interaction and cooperate in the development of new laser systems.

O 31

MISTREATMENT IN ACNE THERAPY – A CASE REPORT

I. Sjerobabski-Masnec, L. Oremović, L. Kotrulja, I. Nola, J. Meštrović-Štefekov

Department of Dermatology and Venerology, Sisters of Mercy University Hospital, Zagreb, Croatia

Acne vulgaris is a very common dermatosis, which mainly affects teenagers. There is a variety of established therapies to treat acne. The therapy is based mainly upon a good understanding of the pathophysiology of acne and acne grade, and includes treatment of hyperseborrhea, keratolytics or comedolytics, and treatment of inflammation. For the treatment of mild form of acne, particularly comedonal acne and low-grade inflammatory acne, topical retinoids with or without benzoyl peroxide and topical antibiotic are the mainstay of therapy. For acne with a greater inflammatory component, topical retinoids are combined with topical or oral antibiotics, and in women antiandrogenic hormonal therapy can also be introduced. In the most severe cases of acne, such as conglobata acne, isotretinoin is the mainstay of therapy.

We present a case of a 19-year-old woman with severe form of acne papulopustulosa on the face, back, buttocks, thighs, and chest. A year before her first visit to our Clinic, after gynecologist and dermatologist recommendation, she has been treated with medium doses of peroral steroids (predni-

solone 25 mg daily) and different topical therapy with inadequate therapy response. In November 2002, she was admitted to day hospital. Clinical and laboratory evaluation revealed low estradiol, progesterone, and free testosterone, normal DHEAS, and high testosterone. Ultrasound examination of ovaries was normal. Peroral steroids were excluded from therapy, and isotretinoin and etinilestradiol+ciproteron acetat were introduced, along with the topical therapy.

O 32

PEELINGS OF AGEING SKIN: WHAT'S NEW?

N. Puizina-Ivić, T. Stipić, A. Čarija, S. Perić-Sušak, V. Gotovac

Split University Hospital Center, Split, Croatia

Although most topical preparations are developed for the treatment of "aged skin", it is now well established that clinical features attributed to aging are those of photoaging, i.e. wrinkles, age spots, and actinic keratoses. We have many different methods of skin resurfacing at our disposal, including a wide variety of chemical peels. The selection of the peel will depend upon the skin condition, i.e. the Glogau photoaging classification as well as Fitzpatrick's skin typing. Among the chemical peels currently used are glycolic acid, salicylic acid, resorcinol, Jessner's solution, TCA, and phenol. Combination of different ingredients enhances the benefits of single peeling agent. At the end, the results of our own experience are presented.

O 33

LASER IN DERMATOLOGY

I. Bartenjev

Ljubljana University School of Medicine, Ljubljana, Slovenia

For many years, the scarless and painless removal of different skin changes seemed to remain out of reach. However, through the development of different modern high-energy laser systems, these aspirations turned into daily practice. Is it really so?

Various vascular as well as epidermal and dermal skin changes and malformations represent the majority of indications for the use of different laser systems in dermatology. We have had a generally good experience with therapeutic effects of different lasers for treatment of vascular neoplasms (nevus flammeus, hemangiomas, and teleangiectasias), and for epithelial benign skin lesions (lentigines, warts, hidradenoma, milia, epidermal nevi, xanthelasma, rhynophym, and elastosis actinica). However, we do not believe that laser represents the best and especially not the only treatment option in all these cases. Possible side effects are scars, depigmentations, hyperpigmentations, bleeding, delayed healing, and secondary microbial infection. Independent from all these limitations, laser surgery nowadays represents an interesting, modern treatment possibility in dermatology, where development of new laser systems for new indications is faster than in any other field of dermatotherapy.

O 34

APPROACH TO DERMATOSURGERY IN CROATIA

M. Šitum

Department of Dermatology and Venerology, Sisters of Mercy University Hospital, Zagreb, Croatia

The acquisition of basic dermatological surgery skills is an important component of dermatological training in Croatia. Dermatology is both, a medical and a surgical specialty. A broad knowledge of the biology and function of the skin and pathology of dermatological disorders enables the dermatologist to choose the best treatment modalities, either medical or surgical or combination of both. Operative dermatology follows the same rules and responsibilities as all other branches of surgery, including the pre-, intra-, and postoperative care. The general condition of the patient must be taken into account when the surgical procedure is planned. Since nearly all procedures in dermatologic surgery are elective, one should consider the noninvasive technique available when surgical treatment carries risk for the patient. A major part of dermatologic surgery in Croatia consists of the removal of malignant and premalignant tumors. In addition, many benign tumors and malformations are removed for esthetic reasons and for prophylaxis to avoid malignant change. Another indication for surgery is the treat-

ment of inflammatory and postinflammatory conditions, e.g., acne inversa, acne scars, rhynophyma, and posttraumatic scars. However, these indications are rare in Croatian dermatosurgery. Except therapeutic and prophylactic excisions, we perform a great deal of skin biopsy for diagnosing inflammatory dermatosis. Three types of biopsies are generally performed: punch biopsy, the spindle shaped or elliptical incisional biopsy, and tangential incisional (shaved) biopsy. Due to the lack of technical and anesthesiologic support, we do not provide lymph node and sentinel lymph node biopsy. The choice of anesthetic technique for most dermatologic surgery cases is a matter of individual preference. We use local, topical, regional anesthesia, and cryoanesthesia. Tumescence technique for locoregional anesthesia for liposuction, phlebectomy, and dermabrasion is not performed, because these operations are done by plastic and vascular surgeons. Also, due to the lack of anesthesiologists in dermatosurgery, we do not operate under general anesthesia. In Croatian dermatosurgery, we do basic operative techniques, which include subcutaneous suture, skin suture and suture removal, curettage, tangential excision, and scissors excision. When a defect cannot be closed by use of simple techniques, some sort of classic surgical repair must be undertaken. Flaps and grafts are most frequently used in repairing the defects.

O 35

SURGICAL TREATMENT – COSMETIC

L. E. Millikan

Abstract not received.

5. TREATMENTS AND MISTREATMENTS IN DERMATOMYCOLOGY

O 36

THE APPROPRIATE AND INAPPROPRIATE TREATMENT OF DERMATOMYCOSES

M. Skerlev

Department of Dermatology and Venerology, Zagreb University Hospital and School of Medicine, Zagreb, Croatia

Dermatomycology is one of the most traditional and fundamental fields of Dermatology and Venerology; it is ever changing science, especially due to the significant changes in epidemiology worldwide and novel treatment strategies. So far, the antimycotics for oral use have been quite often in our focus. In this report, we shall concentrate to the specificity of the topical treatment of fungal skin infections. An appropriate topical therapy is sometimes state-of-the-art. The most important clue to the successful management of dermatomycoses is the exact diagnosis confirmed by culture. The clinical features of fungal skin infections these days might sometimes be quite different from the routine we have been used to. For example, the clinical appearance of mycotic lesions of the face may simulate other dermatologic entities (e.g., nummular eczema, erythema annulare, and lupus erythematosus), making the diagnosis difficult. The clinical pattern of the fungal infection of the face might be either “classical” dermatomycosis (oval or round erythematous lesion with scaly border) or have “tinea incognita” pattern, which seems to be more frequent during the last years due to the inappropriate diagnosis and treatment. There should be greater awareness of the possibility of such mycotic infection to avoid missing the true etiology and inappropriate and prolonged use of topical steroids. A special attention should be given to the *Malassezia* species-related disorders, which are typically localized on the scalp and central facial region. Furthermore, there has been an epidemic outbreak of *Microsporum* (*M.*) *canis* infection in Croatia in the last 25 years, from one positive culture in 1978 up to 414 positive isolates in 2002, according to the data obtained in the Central Mycological Laboratory of our Department. Some atypical and unusual variations of tinea capitis due to *Microsporum* species are presented. For example, introducing only topical antimycotic therapy is not sufficient to obtain a good therapeutic result in these cases. We refer to the 34 cases of typical Kerion Celsi due to *Microsporum* species (and not due to *Trichophyton mentagrophytes*, which is a typical pathogen in such cases) observed during the last five years. The clinical features consisted of painful inflammatory mass on the scalp, with loss of hair, pustular discharge, sinus formation, mycetoma-like grains, and thick crusting. *M. canis* and *M. gypseum* were isolated by culture in 28 and 6 cases, respectively.

In the first stage of the treatment, the antipyodermatic agents should be topically applied in the thick layer. Otherwise, using only topical antimycotic therapy in Kerion Celsi, the course of disease may be prolonged and the therapeutic result may be poor. The antimycotis for oral use should be administered, as well. However, tinea capitis due to *M. canis* represents a greater therapeutic problem than tinea caused by *T. mentagrophytes*. Moreover, the new or previously very sporadic etiologic agents have been recently observed in Croatia, such as *T. tonsurans* causing a deep form of tinea capitis, mostly in wrestlers. All the above-mentioned changes in etiology, epidemiology, and clinical pattern of fungal skin infections certainly require corresponding evolution in treatment strategies.

O 37

TINEA INCOGNITA CAUSED BY *TRICHOPHYTON VERRUCOSUM*

A. Prohić, M. Kantor

Department of Dermatology and Venerology, Sarajevo University Hospital Center, Sarajevo, Bosnia and Herzegovina

Tinea faciei is uncommon site of fungal infection. It often has an unusual presentation that mimics other skin conditions, such as discoid lupus erythematosus, psoriasis, rosacea, contact allergic dermatitis, and photodermatoses. Misdiagnosis is particularly common in those tinea infections whose appearance has been modified by inappropriate treatment, usually by application of topical steroid preparations. Topical steroids suppress the local immune response and reduce the inflammation, resulting in exacerbation of the skin lesions that become bizarrely shaped ("tinea incognita"). A 24-year-old woman, a veterinary student, presented with broad erythematous, scaling patches spreading over her face. She was misdiagnosed with discoid lupus erythematosus and treated with topical steroids. Although the erythema and symptoms improved, the patches continued to enlarge, showing the loss of scaling and annular rim. Based on mycological findings, a diagnosis of *Trichophyton verrucosum* was made. The lesions completely cleared with oral and topical terbinafine therapy.

O 38

WHAT DO WE REALLY NOW ABOUT TINEA INCOGNITA? – CASE REPORT

J. Radoš, M. Skerlev, D. Celić[1], I. Dobrić

Department of Dermatology and Venerology, Zagreb University Hospital Center, [1]Medikol Outpatient Department, Zagreb, Croatia

The term "tinea incognita" is consistent with diverse clinical presentations of mycotic infections modified by the inappropriate administration of corticosteroids or other topical modalities. There has been an increasing number of such cases described during the last five years. Thus, we present a case of a 67-year-old man with a five-year history of widespread lesions consisting of multiple erythematous plaques involving the trunk and extremities, all the time treated with potent topical steroids. The clinical features were thus largely modified. Some of these lesions had a psoriasis-like presentation, and some of them had an eczema-like and a folliculitis-like aspect. Repeated potassium hydroxide (KOH) preparation missed showing fungal elements. The crucial role for diagnosis was the culture where *Trichophyton mentagrophytes var. interdigitalis* was revealed. The lesions have completely resolved after two months of oral and topical antimycotic treatment. Thus, the mycotic etiology should always be in our focus when thinking of atypical, long-lasting, and recalcitrant skin lesions presenting as other dermatological entities.

O 39

CLINICAL EXPERIENCE WITH PROMOGRAN

D. Biljan, V. Barišić-Druško, Z. Jukić, N. Šustić, I. Ručević, R. Vukadin, A. Ageel

Department of Dermatology, Osijek University Hospital Center, Osijek, Croatia

Promogran matrix is a new topically applied interactive wound therapy. The product is a sterile, freeze-dried composite of oxidized regenerated cellulose (ORC) and collagen. In the presence of exudate, the Promogran matrix transforms into a soft and conformable, biodegradable gel; this al-

lows contact with all areas of the chronic wound. Saline or Ringer's solution should be used to hydrate Promogran matrix on dry wounds. Promogran matrix is indicated for the management of all chronic wounds clear of necrotic tissue and visible signs of infection, including diabetic ulcers, venous ulcers, pressure ulcers, and ulcers caused by mixed vascular etiologies. It has demonstrated hemostatic properties and can be used under compression therapy. At the Department of Dermatology, Clinical Hospital Osijek, we apply Promogran in case of chronic venous ulcers and in this report, we present the results after therapy with Promogran.

POSTER SESSION

P 1

p53 AND Ki-67 IN PROLIFERATIVE SKIN DISEASES

T. Batinac, J. Lipozenčić[1], G. Zamolo[2], F. Gruber, A. Stašić, M. Lenković

Department of Dermatology, Rijeka University Hospital Center, Rijeka; [1]Department of Dermatology and Venerology, Zagreb University Hospital Center, Zagreb; [2]Department of Pathology, Rijeka University School of Medicine, Rijeka, Croatia

P53 protein is essential for the regulation of cell proliferation and its aberrant accumulation is usually seen in malignant tumors. It also occurs in squamous epithelium of inflammatory skin diseases characterized by hyperproliferation. The aim of this study was to elucidate the role of the p53 tumor-suppressor protein in the pathogenesis of different hyperproliferative, non-malignant, and malignant skin diseases, and association between p53 overexpression and cell proliferation. To assess p53 and Ki-67 protein expression, we examined immunohistochemicaly a total of 150 skin specimens consisting of 5 groups of 30 specimens each: normal skin, psoriatic skin, keratoacanthomas, basal cell carcinomas, and squamous cell carcinomas. P53 immunostaining of normal skin, psoriatic skin, keratoacanthomas, basal cell carcinomas, and squamous cell carcinomas was positive in 39.0%, 46.7%, 66.7%, 80%, and 86.7% of the cases, respectively. P53 and Ki-67 positive cells were present in basal (normal skin) and suprabasal layers (psoriatic skin), in cancer nests of keratoacanthomas, basal cell carcinomas, and squamous cell carcinomas as well as in dysplastic and even morphologically normal epidermis adjoining cancers. The positivity of p53 and Ki-67 protein differed significantly among the groups. Our findings suggest that p53 overexpression occurs widely in neoplastic and non-neoplastic skin lesions. It is associated with the cell proliferation in normal as well as in changed epithelium.

P 2

ERYTHEMA ANNULARE CENTRIFUGUM – A CASE REPORT

I. Kuljanac, E. Knežević, H. Cvitanović

Department of Dermatology, Karlovac General Hospital, Karlovac, Croatia

Erythema annulare centrifugum (EAC) is annular erythema with raised scaly borders. Most cases of EAC remain unexplained. It has been associated with infections, such as ascariasis, tuberculosis, *Candida albicans*, and Epstein-Barr virus, and even with malignant neoplasms. After a variable period of time, the lesions disappear spontaneously, but new lesions appear after months or years. Systemic steroid or antipruritic agents may help, but topical therapy has little effect. We present a case of a 56-years-old man with erythematous, annular lesions with scaly borders that lasted for a few months. Most of the lesions were distributed in femoral region and trunk. Histological finding confirmed the diagnosis. Laboratory findings were normal. A search for causative factors was negative. Systemic antihistaminics and local steroid therapy were recommended.

P 3

LICHEN PLANUS LINEARIS – A CASE REPORT

I. Kuljanac, E. Knežević, H. Cvitanović

Department of Dermatology, Karlovac General Hospital, Karlovac, Croatia

Clinically and histologically, lichen planus (LP) is a very typical, papular skin disease. Morbidity in the population is about 0.02%. The cause of LP remains unknown. In the linear type (an uncommon pattern), papule are seen in linear or zosteriform configuration, such as along the path of the nerve or at the site of healed herpes zoster. We present a case of lichen linearis in a 54-year-old woman with 10-month history of pruritic violaceus papules. The papules were distributed on distal parts of the upper arms and on the right hand thumb (dorsal part). The nail of the thumb was also affected. The size of linear distribution was about 12 x 1-2 cm. Personal and family history was normal. Laboratory findings, including allergological tests, were also normal. Local steroid therapy was recommended.

P 4

EXPRESSION OF CD30+ AND CD45+RO IN ATOPIC DERMATITIS LESIONS

J. Lipozenčić, D. Bobek, V. Milavec-Puretić, J. Jakić-Razumović[1], A. Basta-Juzbašić, S. Ljubojević

Department of Dermatology and Venerology and [1]Department of Pathology, Zagreb University Hospital Center, Zagreb, Croatia

Atopic dermatitis has cellular imunohistochemical features similar to those of allergic contact dermatitis (ACD). There is plenty of evidence of T-cell activation in this disease. The involvement of $CD30^+$ T cells in acute stages of atopic dermatitis might establish CD30 as a helpful marker in differentiating these two diseases. Tissue sections from the skin of 12 patients with acute atopic dermatitis and 13 with allergic contact dermatitis (nickel-induced) were examined immunohistochemically to determine cell-surface antigens, including CD30, CD3, CD4, and CD45RO. The severity of atopic dermatitis was graded by the SCORAD clinical scoring system. The analysis of $CD30^+$, $CD45RO^+$, $CD3^+$, and $CD4^+$ cells in the dermis and epidermis showed a much wider range of values and statistically higher median ($p<0.01$) in the inflammatory infiltrate of acute atopic dermatitis than in allergic contact dermatitis. Our results showed an association of CD30 expression with atopic dermatitis, but not with allergic contact dermatitis. CD30 expression in atopic dermatitis might be helpful in histologic differentiation of these two disorders as well as in further characterization of atopy patch testing. The results suggested that a specific regulatory function of $CD30^+$ T cells was provoked in acute atopic dermatitis. Abundant $CD45R0^+$ cells were detected both in atopic dermatitis and allergic contact dermatitis lesions.

P 5

MIXED AND PURE ATOPIC DERMATITIS

L. Lugović, J. Lipozenčić[1]

Department of Dermatology and Venerology, Sisters of Mercy University Hospital, [1]Department of Dermatology and Venerology, Zagreb University Hospital Center, Zagreb, Croatia

Atopic dermatitis may be expressed as an allergic rhinoconjunctivitis (AR) or atopic dermatitis (AD) and in only a small proportion as allergic bronchial extrinsic asthma (AB). Patients with AD often have concomitant symptoms of respiratory allergy (RA), with or without AR and AB ("mixed" vs. "pure" AD). The aim of our study was to examine the allergologic status in "mixed" and "pure" AD, using different test parameters. The study included 30 patients with AD hospitalized or treated in Outpatient Allergy Unit, Department of Dermatology and Venerology, Zagreb University Hospital Center, and 10 healthy controls. The patients were divided into two groups: "mixed" AD (n=20) and "pure" AD (n=10). Hanfin & Rajka criteria were used for AD diagnosis. The parameters for monitoring included personal and family history of disease, results of cutaneous tests, and laboratory findings. Cutaneous tests included skin prick test for inhalant and food allergens, scratch test to preservatives and additives (supplied by the Institute of Immunology Zagreb), and epicutaneous (patch) test to contact allergens (according to ICDRG). Laboratory findings included values of serum immunoglobulin E (total IgE determined by the radioimmunosorbent test [RIST], Pharmacia, Uppsala, Sweden; and ELISA), markers on B lymphocytes (CD21 and CD23) and T lymphocytes (HLA-DR) in peripheral blood (three-color immunofluorescence analyses on a flow cytometer-immunofenotyping). Out of 30 patients, 15 developed the disease when under the age of two, 17

had one coexisting allergic disease, and 3 had two coexistent conditions (AR and AB). Skin prick tests on food and aeroallergens were positive in 9 out of 10 patients with “pure” AD, and in 15 out of 20 patients with “mixed” AD. Scratch test reactions were positive in 4 out of 10 patients with “pure” AD and 12 out of 20 with “mixed” AD. Patch test reactions were positive in 5 out of 10 patients with “pure” AD and 14 out of 20 with “mixed” AD. Serum IgE titer was increased in 21 out of 30 patients with AD. Determination of CD23 markers on B lymphocytes showed increased values in 6 patients with “pure” and in 4 with “mixed” AD. The values of CD21 were decreased in 16 AD patients. HLA-DR expression was normal in almost all patients. The results showed differences between the two AD groups only for younger age in “mixed” AD. We conclude that AD can be used as an indicator of increased susceptibility to development of RA later in life.

P 6

NEVUS COMMEDONICUS – A CASE REPORT AND REVIEW OF THERAPEUTICAL APPROACH

I. Manola, S. Ljubojević[1], J. Lipozenčić[1], N. Pustišek[2]

”Polančec” Polyclinic for Dermatology and Gynecology, Donja Stubica; [1]Department of Dermatology and Venerology, Zagreb University Hospital Center, [2]Children’s Hospital, Zagreb University School of Medicine, Zagreb, Croatia

Nevus comedonicus (NC) is uncommon abnormality of pilosebaceous unit, clinically characterized by confluent clusters of dilated follicular orifices plugged with pigmented keratinous material that resembles open comedones. The undifferentiated epithelium of the hair follicles produces keratin which, packed in laminated layers, forms keratin plug. The condition is usually asymptomatic, but it may be complicated by infection and scarring.

A 19-year-old woman visited Outpatient Allergy Unit at Department of Dermatology and Venerology, Zagreb University Hospital Center, because of a skin condition present since birth, with a tendency to worsening after the beginning of puberty, especially in the previous few months. The skin lesions were characterized by numerous 1-3 mm, darkly pigmented, keratotic plugs clustered in linear, unilateral patches on the left side of abdomen. Several papules and crusts were seen around umbilicus, especially around the area in contact with metal button. The standard epicutaneous tests gave positive reaction to nickel sulfate and carba mix. Previous treatments included keratolytics, local antibiotic, manual extraction, and were either ineffective or had minimal effects. Our treatment consisted of daily application of 0.1% tretinoin cream. After only 4 weeks of local therapy, cosmetic result was evident, with slight resolution of keratin plugs. The indications for treatment are recurrent infections and cosmetic reasons. Therapeutic approaches include topical keratolytic agents (salicylic, lactic, d-tartaric and a-hydroxy acid, and benzoyl peroxid), ammonium lactate, topical retinoic acid, manual extraction of comedones, pore strip pack, dermabrasion, excision of smaller lesions, tissue expansion in extensive NC lesions, hormonal (estrogen and progesterone) therapy, and peroral isotretinoin. Topical and systemic antibiotics are indicated to control infection in inflammatory, cystic, and scarring type of NC. Our patient with coexisting NC and contact allergy responded well to combined retinoid and corticosteroid local therapy. Application of retinoid acid usually accelerates the exfoliation of the epithelium and the expulsion of the keratin layers, but does not eliminate the crypts and pits in the skin. To date, there is no single treatment of choice.

P 7

COMPLICATIONS IN TATTOOING WITH DIFFERENT APPROACH TO HEALING

S. Simeonova, V. Lazarevic, L. Biserkoska-Anasovska, M. Nikolovska

Department of Dermatology and Venerology, Health Care Center, Skopje, Former Republic of Macedonia

We present two patients with warts as a complication of tattooing. One of them was a 28-year-old man with decorative tattoo on his chest and both upper forearms. The second one was a 20-year-old man with decorative tattoo on his right forearm. In both cases, small verruciform changes developed along the tattooed lines few years after tattooing. The changes were not accompanied with subjective difficulties. Both patients were healthy, with unremarkable medical history. The first patient

thought about removing the whole tattoo and was referred to a surgeon for esthetic surgical treatment. The warts have been surgically removed along with the tattoo. Histological examination confirmed the viral infection of the tattooed skin. In the second case, the treatment with cryotherapy was successful in removing the warts. Tattooing, as a fashion trend, increasingly becomes a dermatological issue. It brings rare potentially dangerous and odd medical complications. The warts are probably one of the less dangerous complications of tattooing.

P 8

GORLIN'S SYNDROME AND THERAPEUTHICAL POSSIBILITIES

M. Šitum, Ž. Bučan, S. Levanat[1]

Department of Dermatology, Sisters of Mercy University Hospital; [1]Division of Molecular Medicine, Ruđer Bošković Institute, Zagreb, Croatia

Gorlyn's syndrome, or nevoid basal cell carcinoma syndrome, is a genetically determined autosomal dominant disorder responsible for predisposition to basal cell carcinomas of the skin as well as other developmental disorders and defects. The syndrome is very rare, with the prevalence of 1 per 56,000 population. It is characterized by the childhood onset of multiple basal cell carcinomas and several other tumors, such as ovarian fibroma and medulloblastoma. Developmental disorders, as another prominent hallmark of the syndrome, include pits of palms and soles, jaw keratocysts, abnormalities of the vertebrae, bifid ribs, and short metacarpals. The most common neurologic malformations are midline brain malformations, retardation, electroencephalographic abnormalities, strabismus, ectopic calcification of the dura, and macrocephaly. The genes involved in cancerogenesis often play a critical role in the normal development and cellular regulation, and mutations of these genes contribute to cancerogenesis. PTCH gene, responsible for this disorder, a human homologue of the Drosophilla segment polarity gene patched, is mapped to chromosome 9q22.3. The loss of heterozygosity at this site in both sporadic and hereditary basal cell carcinomas suggests that it functions as a tumor suppressor. Drosophilla patched is a part of the patched signaling pathway, important in determining embryonic pattering and cell fate in multiple structures of developing embryo. Human patched is mutated in both hereditary and sporadic Gorlin's syndrome and inactivation of the gene is probably a necessary step for the disease to develop. Clinical findings of the basal cell carcinomas as part of Gorlin's syndrome are different from the classic ones. Initially, changes appear as small pink or light-brown papules. The lesions are painless. Commonly, the changes are benign in early childhood, but during the puberty, they assume their malignant form. They are slow growing tumors, which rarely produce metastases, but can cause the local destruction of the tissue. The most common sites of appearance are the face, neck, and upper part of the trunk (back and chest). Surgery is the treatment of choice, but since tumors may be very numerous, surgical treatment is not always practical. Furthermore, tumor recurrences are common due to difficult defining of the skin margins. Recent studies using photodynamic therapy with a systemic or topical photosensitizer and appropriate laser or non-laser light source have shown good early results, and cryotherapy has been useful for small, early lesions. Intralesional interferon-α has been reported useful in a small number of cases. Radiotherapy should not be used, since the rate of appearance of new lesions is accelerated after the irradiation in the irradiated field. However, the follow-up due to early detection of basal cell carcinoma is very mportant.

P 9

CONGENITAL GIANT NEVUS – THERAPEUTIC APPROACH

M. Šitum, Ž. Bučan, K. Kostović, D. Štulhofer Buzina[1]

Department of Dermatology and Venerology, Sisters of Mercy University Hospital, [1]Department of Dermatology and Venerology, Zagreb University Hospital Center, Zagreb, Croatia

Congenital giant nevus (congenital hairy nevus, or bathing trunk nevus) is an extensive pigmented nevus with a tendency to spread within a dermatoma. The incidence is extremely low, ranging from 1/5,000 to 1/20,000 births. The cause of congenital melanocytic nevi is unknown. They presumably

represent a significant defect in the migration of melanocytes from the neural crest. Although there are reports of familial congenital melanocytic nevi, most cases are sporadic. There is a great variation in the clinical appearance of congenital nevi: they can take a shape of a bathing trunk, vest, pelerine, coat sleeve, or socks. Affected area is a dark, brown pigmented, hairy, weakly infiltrated, and often verrucous. Except on the trunk and extremities, the nevus can be found in scalp, brain, spinal cord, and meninges. Due to the affection of the central nervous system, one can have disturbances that represent neurocutaneous syndroma, so-called melanosis neurocutanea. Regarding the extension of skin changes, these nevi are great therapeutic problem. The basic treatment of congenital melanocytic nevi is surgical excision. The stimulus towards therapy is to prevent the later development of malignant melanoma and to provide cosmetic improvement for this often extremely distressing problem. The patient should be followed-up every six months to check for a change in color, shape, satellite lesions, and nodules. Since the large congenital melanocytic nevi may evolve into malignant melanoma in the first year of life, excision should be undertaken as soon as the risks associated with anesthesia are acceptable. Often several staged excisions (partial surgical excision), combined with tissue expanders or skin grafting, are needed. The propensity of congenital melanocytic nevi to extend quite deep implies that some melanocytes are often left behind. Sometimes, extremely superficial, pale congenital melanocytic nevi are treated early in life with dermabrasion; this offers an easier and safer way to treat larger areas in a small child, but also leaves behind melanocytes in deeper layers of the skin. Smaller lesions can be excised later, perhaps after a patient is 8-10 years old and when local anesthesia usually suffices.

P 10

THE EFFICACY OF TABLE SUGAR IN TREATMENT OF VENOUS ULCERS

I. Vukšić, N. Puizina-Ivić, D. Marasović, D. Anđelinović, T. Stipić, D. Pezelj, G. Pavičić, V. Gotovac, A. Čarija, S. Perić-Sušak

Split University Hospital Center, Split, Croatia

There is no ideal therapy for ulcers infected with *Pseudomonas aeruginosa*. The idea of using a table sugar for these infections came from South America, where this technique has been used for centuries. We used the table sugar as the first-line defense in ulcers infected with *P. aeruginosa* after obtaining of ulcer's swab for bacterial culture. The preliminary results showed that sugar could be conventional therapy aid in the management of venous ulcers infected with these gram-negative bacteria. The possible mode of inhibition of *P. aeruginosa* growth is discussed according to the recent literature data.

P 11

VITILIGO – NEW APPROACHES IN PHOTOTHERAPY

K. Kostović, Ž. Bučan, I. Nola, N. Troskot

Department of Dermatology and Venerology, Sisters of Mercy University Hospital, Zagreb, Croatia

Vitilgo is a depigmenting disorder characterized by amelanotic maculae resulting from a loss of melanocytes. Its prevalence in the worldwide population is approximately 2%. There are several hypotheses on the pathogenesis of the disease, but none is fully explanatory. Vitiligo can be treated in many ways, but not all the patients respond to current treatment modalities. Phototherapy with psoralen and UVA (PUVA) is the most useful for extensive vitiligo. Psoralen is used as a bath preparation or orally with 8-methoxypsoralen (8-MOP) taken two hours before exposure to UVA lamps. The treatment is given two to three times a week. If there is no response within three months, the treatment should be stopped. The recommended upper limit for the total number of treatments is 100-150. The areas that respond most favorably are the face and the trunk. Since 8-MOP can cause a number of adverse effects, including gastrointestinal side effects, such as nausea and vomiting, and skin side effects, such as erythema and pruritus, new treatments may include the use of 5-methoxypsoralen (5-MOP) and narrow-band UVB therapy. Since 5-MOP is less phototoxic agent, the incidence and severity of adverse effects, such as nausea, vomiting, erythema, and pruritus, are 2-11-fold less frequent than with 8-MOP. 5-MOP has similar response rate as 8-MOP in repigmenting vitiligo. Several studies suggested that narrow-band UVB can

be more effective than oral PUVA, with response rates ranging between 30% and 67%. Where other forms of phototherapy are concerned, the face and the trunk have better regimentation than distal parts of extremities. In addition, narrow-band UVB have no gastrointestinal side effects and erythema is milder. It must be pointed out that this is the most effective treatment modality for children with vitiligo.

P 12

CONVATEC IN LOCAL THERAPY – CASE REPORT

I. Ručević, V. Barišić-Druško, D. Biljan, Z. Jukić, N. Šustić, R. Vukadin, A. Ageel

Department of Dermatology, Osijek University Hospital Center, Osijek, Croatia

We present a case of a woman with diabetes mellitus and unusual necrosis of the toes followed by sepsis. The patient's medical history revealed that wet gangrene involving the great toe and the second toe of the right foot developed after she had bathed in the Adriatic Sea. Soon after the appearance of foot gangrene, the patient developed sepsis, agranulocytosis, and gangrene of both forearms (gangrena antebrachii utriusquae). We describe the results of dermatological therapy of gangrene in our patient using Convatec® products.

P 13

THERAPEUTIC DIFFICULTIES IN DIAGNOSIS OF PEMPHIGUS FOLIACEUS

J. Meštrović-Štefekov, M. Šitum, B. Marinović[1], G. Novak-Bilić, L. Kotrulja, I. Nola

Department of Dermatology and Venerology, Sisters of Mercy University Hospital, [1]Department of Dermatology and Venerology, Zagreb University Hospital Center, Zagreb, Croatia

We present a case of pemphigus foliaceus in a 77-year-old female patient with intercellular IgG and IgA deposits and a 10-year history of bullous disease. First skin lesions appeared on the scalp 10 years ago, and six months later on the trunk in the form of small blisters and erosions, histologically assigned to Grover disease. Three years ago, during the episode of bullous eruption, erythematous patches appeared on the face. Direct immunofluorescence showed intercellular IgA deposits and linear deposition of C3 and C1q along the basement membrane; diagnosis of IgA pemphigus was made. In August 2001, clinical examination revealed scaly erythematous plaques on the face and annular lesions with a scaly margin on the trunk and extremities. Cutaneus biopsy specimens showed intraepidermal blisters with acantholysis in the upper epidermis, without neutrophilic infiltration. Direct immunofluorescence revealed intercellular IgG and IgA deposits, whereas indirect immunofluorescence showed circulating IgG and IgA antibodies directed against intercellular spaces of the epidermis. Antibodies showed specific reactivity with desmoglein-1 antigen (DSG-1 202,5 ind), but no specific reactivity with desmoglein-3 (DSG-3 0.9 ind). Diagnosis of pemphigus foliaceus was made. After six weeks of treatment with methylprednisolone and azathyoprine, the skin lesions withdrew, but corticosteroid side effects remained quite visible. After a short, three-month period of remission, skin lesions reappeared: erythematous plaques on the face and scaly, annular lesions on the trunk and extremities, which were more pronounced then before. We started Dapsone 100 mg daily and after an initial good recovery, the patient developed a most unusual side effect of this therapy – increased values of methemoglobin. Thereafter, the dose was decreased to 50 mg daily. The patient is still being followed-up. The question is what other treatment options will be left to use if this and other side effects continue to appear.

P 14

VASCULITIS WITH MUTILATION: PART OF LEPROSY CLINICAL FINDINGS?

G. Novak-Bilić, M. Šitum, A. Soldo-Belic, J. Meštrović-Štefekov, L. Kotrulja, L. Lugović

Department of Dermatology and Venerology, Sisters of Mercy University Hospital, Zagreb, Croatia

We present a case of a 57-year-old man who is still without a definite diagnosis. The patient was referred to our Department in September 2002 from the ENT Department, where he was observed for hearing loss, skin changes, and primary destruction of the left nasal region (alae nasi) under suspicion

of skin tumor. However, skin biopsy did not reveal any tumor cells. Patient has had diabetes mellitus and hypertension for many years. A year ago, he had cerebrovascular insult (CVI), which resulted in mild left-side hemiparesis, but caused no other complications. First skin lesions appeared on his nose, forehead, and dorsum of the right hand a year ago, after CVI. The changes were most expressive in the nasal region, with destruction of tissue, progressive tissue loss, erythema, and edema around the defect. Atrophic, anesthetized areas of the skin could be seen on the forehead and dorsum of the right hand. Simultaneously with skin changes, eyesight weakening, double visions, and a hearing loss started to appear, but patient was generally in good condition.

The differential diagnosis included systemic infective (leprosy or TBC), systemic autoimmune (lupus mutilans profundus or vasculitis), and other systemic diseases (complications of diabetes mellitus). History data and clinical findings (travelling to countries with endemic leprosy, sensory disorders, and nasal destruction) primary referred to leprosy; therefore, extensive clinical, laboratory, and histopathologic examinations were made in that direction, but specific tests to *M. leprae* were negative. Skin biopsy of the nose lesion showed "small vessel neutrophilic" vasculitis. Ziehl-Nilsen, Giemsa, and PAS staining were negative. NMR showed elements of vasculitis in distal parts of the posterior and medial cerebral arteries.

Multidisciplinary consultations of specialists in infectious diseases, neurology, ENT, internal medicine, and pathology led to the conclusion that the pathological process is primary autoimmune vasculitic disease of unknown etiology. However, based on the clinical findings, the diagnosis of borderline leprosy still cannot be definitely excluded. As the disease has been advancing, it had to be decided what therapy to apply. Systemic corticosteroid therapy has been started with high-dose methylprednisolone (80 mg; Medrol® tbl). There has been no significant clinical improvement, but it seems that progressive course of disease has slowed down. The patient is still under observation.

P 15

CORRELATION BETWEEN QUALITY OF LIFE AND PSYCHOLOGICAL IMPACT IN PATIENTS WITH ACNE VULGARIS

L. Kotrulja, L. Oremović, I. Sjerobabski-Masnec, M. Šitum, M. Vurnek[1], Ž. Bučan, M. Tadinac Babić[1], N. Jokić Begić[2], R. Gregurek[2]

Department of Dermatology and Venerology, Sisters of Mercy University Hospital; [1]Department of Psychology, Faculty of Philosophy; and [2]Clinic for Psychological Medicine, Zagreb University Hospital Center, Zagreb, Croatia

Acne vulgaris is a common inflammatory dermatosis that can produce psychological and physical scarring. It is common for the patient to develop psychological problems as a consequence of the condition, such as those related to low self-esteem, social phobias, depression, anxiety, suicidal thoughts, and lowered quality of life. Self-assessment of acne severity is often more severe than clinical dermatological evaluation, which is important for understanding the necessity of individual approach to the patient. Isotretinoin is indicated in the treatment of severe form of the disease, although its application has also been suggested lately in moderate form of acne with prominent cicatricial liability or when the disease has a strong psychological impact on patient's life. In the last 15 years, there has been evidence of possible association of isotretinoin therapy with depression and suicidal tendency during the treatment. The aim of our clinical trial, conducted at two Dermatological Departments in Croatia, was to determine how patients with acne vulgaris cope with their disease and what is the influence of isotretinoin therapy on psychological status of the patient. Acne severity was determined by a dermatologist using validation grading system. Patients were asked to self-rate their condition. Quality of life was measured by Dermatology-Specific Quality of Life Questionnaire (DSQL). Subjects also completed Assessments of the Psychological and Social Effects of Acne (APSEA), Beck's Depression Inventory (BDI), State-Trait Anxiety Inventory (STAI), and the Measure of Psychological Stress (MSP). The results showed that patients with acne suffered from psychosocial problems induced by their disease. The disability associated with acne correlated inconsistently with clinical grading of acne severity,

but showed a good correlation with self-rated severity of the condition. It seems that the impairment caused by acne does not correlate with the objective clinical assessment of acne severity. The most important factor is the patient's perception of their condition. Therefore, it is important for the future research to include severity ratings by both the patients and dermatologists.

P 16

DERMATOMYCOSES IN KARLOVAC COUNTY, 1995-2002

H. Cvitanović, E. Knežević, I. Kuljanac

General Hospital Karlovac, Karlovac, Croatia

We investigated the frequency of dermatomycoses in the Karlovac area during 1995-2002. The study included a total of 1,182 cases of clinically suspected dermatomycoses. In all patients, the identification of fungi was performed by direct microscopic preparation with 20% KOH and culture on Sabouraud medium at the Central Mycologic Laboratory of Croatia, Department of Dermatology and Venerology, Zagreb University School of Medicine. Positive results were obtained in 354 (29.9%) out of 1,182 patients; 169 (47.7%) were men, and 185 (52.2%) were women. The average age of the patients was 39 years. Distribution of dermatomycoses was as follows: trunk 9 (2.5%), arms 72 (20.3%), legs 83 (23.4%), finger nails 23 (6.6%), toe nails 48 (13.6%), face 40 (11.2%), and scalp 79 (22.3%). The results showed that *Trichophyton mentagrophytes* was the most common etiologic agent, found in 154 (43.5%) cases, followed by *Microsporum canis* in 110 (31.1%) cases. *Candida* spp. was isolated in 70 (19.8%), *Trichophyton rubrum* in 14 (3.9%), *Epidermophyton floccosum* in 4 (1.1%) *Trichophyton violaceum* in 1 (0.3%), and *Microsporum gypseum* in 1 (0.3%) patient. In 150 (42.4%) cases, we administered oral antifungal therapy, mostly terbinafine. In 254 (57.6%) patients, treatment included topical application of terbinafine or imidazole creams.

P 17

ERYTHROMELALGIA PROVOKED BY INFLUENZA VACCINE

J. Lipozenčić, S. Ljubojević, N. Pustišek[1], T. Batinac[2]

Department of Dermatology and Venerology, Zagreb University Hospital Center; [1]Children's Hospital Zagreb, Zagreb University School of Medicine, Zagreb; [2]Department of Dermatology and Venerology, Rijeka University Hospital, Rijeka, Croatia

Erythromelalgia is a rare and unusual clinical syndrome characterized by erythema and swelling of the skin due to vasodilatation, increased temperature of the affected skin, burning, and pain in acral parts of the extremities, aggravated by warming and relived by cooling. Women are affected 2.5-fold more frequently than men. We present a case of a 22-year-old woman who has suffered from painful bilateral erythema, swelling, and warmth of hands and feet for a year. A month before she developed the symptoms, she had received influenza vaccine because of recurrent respiratory infection. There was no unusual immediate reaction to vaccination. Clinical picture was characterized with symmetrical, pronounced redness, swelling, and warmth of the skin of distal limbs accompanied by severe burning pain that could be relieved by cold compresses. Her mother suffered from chronic thrombocytopenia. Patient's routine blood tests, including platelet count, were within the normal ranges. Diagnosis of erythromelalgia was established on the basis of clinical and laboratory findings (hematological, biochemical, microbiological, and immunological), indicating no systemic organ involvement. Histological finding revealed arteriolar endothelial cell swelling, thickening of vessel walls, and perivascular inflammatory infiltration of lymphocytes and plasma cells. Thermography showed increased skin temperature in the affected areas and thermal amputation of the fingers on both hands. Treatment was very difficult. Multidisciplinary approach was necessary, including patient education (learning to avoid episodes, controlling secondary and underlying factors, and use of drugs). In the beginning, the patient was administered aspirin, but she developed an allergic drug eruption, which was proven by testing. She refused taking corticosteroids. Oral prostaglandin (misoprostol) 800 mg daily was introduced after 8 months of illness, with 10% capsaicin cream for topical therapy, which showed limited effect. Cyproheptadine (Periactin 3 tbl daily; followed by 2 tbl daily) during 1 month with cold

compresses during 2 months led to improvement and showed to be a treatment of choice in our patient.

The pathogenesis of the disease is still unclear. In our patient, influenza vaccination given 30 days before the development of the symptoms suggests an immune-mediated injury probably induced by the vaccine. Despite recent progress in understanding and treating erythromelalgia, this vascular disorder remains painful and life-altering disease for many patients. The use of high dosage oral prostaglandin produces good results and, sometimes, dramatic improvement. However, it showed relative effect in our patient, in whom cyproheptadine and cold compresses proved to be the therapy of choice.

P18

NAPHTHALAN IN THE TREATMENT OF PATIENTS WITH ATOPIC DERMATITIS (NEURODERMITIS)

A. Smeh-Skrbin, I. Dobrić[1], G. Krnjević-Pezić, P. Vržogić

Naftalan Special Hospital for Rehabilitation, Ivanić Grad, and [1]Department of Dermatology and Venerology, Zagreb University Hospital Center, Zagreb, Croatia

Our aim was to examine the efficacy of naphthalan in the treatment of patients with atopic dermatitis – a chronic, usually pruritic, and clinically variable skin disease associated with atopy. Naphthalan therapy has been used in the treatment of patients with various forms of psoriasis for 14 years, due to the anti-inflammatory and antiproliferative effect of natural mineral oil, naphthalan. Our study included 15 patients aged 15 years and above, who underwent a 3-week naphthalan therapy that consisted of taking a 12-minute bath in a tub filled with naphthalan oil at temperature of 34°-38°C every day. Patients took 18 baths during the study. Neutral cream and antihistaminic medications were also administered. SCORAD index was determined and a photographic record made of each patient at the beginning and at the end of the 3-week therapy. Naphthalan therapy resulted in the improvement of clinical picture and reduction of subjective symptoms, such as itching and sleeping disorders. The average SCORAD index was 71.92 before the therapy and 25.66 after the therapy. Our results show that naphthalan therapy alleviates the signs and symptoms of atopic dermatitis and can be used in the treatment of such patients.

BELUPO – THE GRAND GLOBAL TROPHY AWARD

«DON'T WORRY BE HEALTHY! ZDRAVO BUDI»

The New York Festivals has awarded the main prize Grand Global – The Best in Healthcare Communication Worldwide for 2002 to the BELUPO pharmaceutical company for the project of «Don't Worry Be Healthy! Zdravo budi!» exhibition.

The Global Award is presented for Best Consumer Public Relations Materials in the area of health care. In 2002, there were 1,300 candidates from all over the worlds. In the category of Grand Global – Social Commitment, Belupo exhibition was assessed as the most original and most successful, socially useful project in the world. This is the first time that a firm from this part of Europe has been honored with such an award, which is even more rewarding.

«Don't worry be healthy! Zdravo budi» was opened to the Croatian public in October 2001, in the Museum of Arts and Crafts, Zagreb. The project was realized by Ante Rašić and Oleg Hržić from Studio Rašić, in cooperation with the experts from Belupo-Marketing (Renata Tomerlin-Juzbašić).

This multimedia exhibition presented a new visual identity of packaging of Belupo non-prescription pharmaceuticals. Artistic illustrations served as a basis for the attractive new image: simple, easy-to-remember, and recognizable motifs that refer the user to the effects of the drug.

This unique economic, cultural, and marketing project introduced Belupo as an innovative and modern firm, whereas the project itself wan every contest it entered.

The honor to receive one of the five greatest awards – Grand Global Trophy at The New York Festivals – fell to the Croatian firm, Belupo. Grand Global – The Best in Healthcare Communication Worldwide for the «Zdravo budi!» exhibition was presented by the representative of The New York Festivals at the presentation ceremony that took place on Thursday, April 24, 2003, at 5:00 p.m. in the Museum of Arts and Crafts, Trg maršala Tita 10, Zagreb. The event was attended by the President of the Republic of Croatia and other leading economic, cultural, public, and political figures in the country. There was a complete atmosphere of the ceremony of award presentation to Belupo and the artistic team behind the project.

Cordial congratulations to Belupo-Marketing, Zagreb.

Prof. Jasna Lipozenčić, M.D., Ph.D.

Acta Dermatovenerol Croat
2003;11(2):126-132

The Croatian Dermatovenerological Society of the Croatian Medical Association, Zagreb

and

"Naftalan" Special Hospital for Rehabilitation, Ivanić Grad, Croatia

organize

International Symposium

Current State on Psoriasis and Naphthalanotherapy

Ivanić Grad, Croatia
September 19, 2003.

Main topics:

- New aspects in etiopathogenesis of psoriasis
- Immunohistopathologic diagnosis in prognosis of psoriasis
- Antiproliferative effect of naphthalan combined ultraviolet B (UVB) light and naphthalan therapy
- Other therapeutic options in treatment of psoriasis.

Contact:

Prof. Jasna Lipozenčić
Department of Dermatology and Venerology
Šalata 4
10000 Zagreb, Croatia
Tel/fax.: +385-1-4920-014
E-mail: *jasna.lipozencic@zg.tel.hr*

Bus transportation from Zagreb to Ivanić Grad will be organized for all participants of the Symposium.

Continuing Medical Education Course on

Sexually Transmitted Diseases and Infections

Zagreb, Croatia

November 21-22, 2003

The Continuing Medical Education Course is organized by the Chair of Dermatovenerology, University School of Medicine Zagreb and the Croatian Dermatovenerological Society of the Croatian Medical Association **under the auspices of Academy of Medical Sciences of Croatia**.

There has been a resurgence of sexually transmitted infections (STIs) in all age groups, which makes diagnostic procedures in venerology ever more important. Great efforts are needed in service provision, health promotion, and research to identify the interventions most likely to succeed. The prevalence of the most frequent STIs will be discusses on the Course.

World known expert in the field of STIs, Prof. James Bingham will also participate in Course.

Contact:

Prof. Jasna Lipozenčić
Department of Dermatology and Venerology
Šalata 4
10000 Zagreb, Croatia
Tel/fax: +385-1-4920-014
E-mail: *jasna.lipozencic@zg.tel.hr*

Acta Dermatovenerol Croat
2003;11(2):126-132

LUPUS MALTA PRIZE

On the First Spring Symposium of the European Academy of Dermatovenerology in Hotel Intercontinental, Malta, on March 1, 2003, **Stella Fatović-Ferenčić** (Croatia) and **Karl Holubar** (Austria) were awarded the Lupus Malta Prize for the best poster submission on Lupus Erythematosus: History of Lupus Erythematosus.

Congratulations to the authors and Croatia, too.

Prof. Jasna Lipozenčić, M.D., Ph.D.

From Biett (1781-1840) to Dohi(1866-1931):Iconography of Lupus erythematosus (LE).

Stella Fatovic-Ferencic*, Karl Holubar**, Depts. of History of Medicine, Croatian Acad Sci & Arts, Zagreb.Croatia*, Univ of Vienna, Vienna Austria**

Lupus *erythematosus* by today has replaced Lupus *vulgaris* as the more frequent disorder labeld with this term. Historically, *lupus* means a destructive process leading to tissue defects in consequence. The 19th century with its rise of tuberculosis in the industrial urban centers brought skin tuberculosis (lupus vulgaris is one form of it) in front. First described by Biett as *Érythème centrifuge*, LE appeared in medical literature already around mid 1850[1,2].The picture given in the book on Biett´s teachings is L. vulgaris however[2].

The 19th century was the heyday of dermatological illustration by hand, i.e. painting, lithographies and moulages. Beginning with JL Alibert´s atlas (1806-1814) and MN Devergie´s, a series of grand-format publications started to appear which lasted into the early years of this century, WJE Wilson[3], PLA Cazenave[4], F Hebra[5], , R Taylor[6], R Crocker[7], P. Morrow[8], to name but a few. Eventually Keizo Dohi´s[9], was the first atlas from outside the Euro-American sphere (1903-1910). At the end of this development moulages, as individual, three dimensional colored replicas of a patients´ pathology and photographs replaced paintings. The picture series illustrates the change of style, from elegant portraits to frugal pictorial demonstration of disease. (Figures relate to refs. #3-9 and the oeuvre of Hebra´s two painter physicians).

(1) Cazenave (A): Revue clinique hebdomadaire. La Lancette Française: Gazette des Hôpitaux civils et militaires Samedi 27 Juillet 1850, p.354 col 3, para 3, lines 15-20

(2) Cazenave A and Schedel HE: Abrégé pratique des maladies de la peau. Paris, Bechet Jeune 1828 and 1838 (1st and 2nd ed.)

(3)Wilson WJE: Portraits of diseases of the skin, London 1855

(4)Cazenave PKA: Leçons sur les maladies de la peau, Paris 1856

(5)Hebra F: Atlas der Hautkrankheiten, Wien 1856-76

(6)Taylor RW: A clinical atlas of venereal and skin diseases Philadelphia 1889

(7) Crocker HR: Atlas of the diseases of the skin, London 1903

(8)Besnier E Fournier A et al: Le Musée de l'Hôpital Saint-Louis, Paris 1894?

(9) Dohi K: Atlas der Hautkrankheiten.Tokyo 1903-10

Acknowledgments:A.Weissenboeck MA, K.Stöckl

GAZETTE DES HOPITAUX CIVILS ET MILITAIRES.

(copyright: Wiener klinische Wochenschrift, Springer-Wien, Vienna, Austria)

Acta Dermatovenerol Croat
2003;11(2):126-132

Severe Acute Respiratory Syndrome (SARS)

S. Ljubojević

Department of Dermatology and Venerology, Zagreb University Hospital Center, Zagreb, Croatia

Severe acute respiratory syndrome (SARS) is a respiratory illness of unknown etiology that has been spreading since February 1, 2003. The diagnosis of the disease can be made on the following criteria: 1) fever >38°C; 2) one or more clinical findings of respiratory illness (e.g., cough, shortness of breath, difficulty breathing, hypoxia, or radiographic findings of either pneumonia or acute respiratory distress syndrome); 3) travel within 10 days of onset of symptoms to an area with documented or suspected community transmission of SARS (World Health Organization has received reports of the syndrome from China, Singapore, Vietnam, Thailand, Indonesia, Taiwan, and Philippines, as well as Canada, the United States, and Germany); and 4) close contact within 10 days of onset of symptoms with either a person with a respiratory illness who traveled to a SARS area or a person known to be a suspect SARS case. Travel includes transit in an airport in an area with documented or suspected community transmission of SARS. Close contact is defined as having cared for, having lived with, or having direct contact with respiratory secretions and/or body fluids of a patient known to be a suspect SARS case.

The outbreak in the area mentioned above has continued to grow in magnitude and has affected groups outside the initial risk groups of hospital workers, their families, and other close person-to-person contacts, although all the cases reported have identified links to known SARS cases. In addition, a small number of persons with SARS, now in other countries in the world, appear to have acquired the infection while in Toronto. On the basis of this information, World Health Organization is also including Toronto in the extension of its SARS-related travel advice.*

SARS is a new disease, first recognized in late February 2003, that has spread along the routes of international air travel. The disease originated in Guangdong at the end of last year and has affected over 300 people and killed five. The outbreak in Hong Kong started when a doctor from southern China arrived on February 21, 2003, and stayed in a local hotel. He had been unwell for a few days before the trip but now became seriously ill and died in a local hospital. However, he had infected his brother-in-law, two nurses in the hospital, and seven guests who had stayed on the same floor of the hotel. One of these hotel guests was admitted into a major public hospital on February 24 and was responsible for the outbreak there, affecting at least 88 healthcare workers and 18 medical students. Another major outbreak affecting 237 residents (at the time of writing) in a housing estate was traced back to a patient discharged from the same ward of the public hospital.

As of April 22, 2003, a cumulative total of 3,947 cases had been reported from 25 countries on five continents. The outbreak started with a visitor from southern China on February 21. At the hospitals where the first cases were treated, the disease spread quickly among healthcare workers, and then out into the community as family members became infected. On March 27, the Department of Health announced drastic measures, including vigorous contact tracing and examination, quarantine of contacts in their homes, and closure of all schools and universities.

*Source: *http://www.health.ri.gov/disease/communicable/sars/han35.htm*.

Precautionary measures aim to reduce the impact of SARS and contain the disease while it is still in a relatively early stage. There is strong evidence that a novel coronavirus is the pathogen. Precautions for droplet infection should be instituted, including the wearing of masks, and rigorous disinfection measures and hygiene procedures.

The SARS situation is assessed on a daily basis to determine whether other areas need to be included in the travel advice and if additional precautionary measures are required.

The rapidity of the spread of the disease and the morbidity indicate that the agent responsible is highly infectious and virulent. Strict infection control measures for droplet and contact transmission by healthcare workers, a vigilant healthcare profession, and public education are essential for disease prevention.

For more detailed information visit the following websites:

- World Health Organization. Severe acute respiratory syndrome (SARS). Available from: *www.who.int/csr/2003_03_12/en.* Accessed: March 12, 2003.
- Government of Hong Kong Special Administrative Region Department of Health. Atypical pneumonia. Available from: *www.info.gov.hk/info/infection-c.htm.* Accessed: April 7, 2003.
- Tsang KW, Ho PL, Ooi GC, Yee WK, Wang T, Chan-Yeung M, et al. A cluster of cases of severe acute respiratory syndrome in Hong Kong. N Engl J Med 2003 Apr 1 [epub ahead of print]. Available from: *http://content.nejm.org/cgi/reprint/NEJMoa030666v2.pdf*. Accessed: April 7, 2003.
- Peiris JSM, Lai ST, Poon LLM, Guan Y, Yam LYC, Lim W, et al. Coronavirus as a possible cause of severe acute respiratory syndrome. The Lancet 2003 Apr 8 (published online). Available from: *http://image.thelancet.com/extras/03art3477web.pdf*. Accessed: April 8, 2003.
- Hospital Authority. Severe acute respiratory syndrome: clinical guidelines (revised 27 Mar 2003). Available from: *www.ha.org.hk/hesd/nsapi/?MIval=ha_view_template&group=PRS&Area=CGL*. Accessed: April 7, 2003.
- Lee N, Hui D, Wu A, Chan P, Cameron P, Joynt GM, et al. A Major outbreak of severe acute respiratory syndrome in Hong Kong. *N Engl J Med* 2003 April 7. Available from: *www.nejm.org.* Accessed: April 7, 2003.
- Centers for Disease Control and Prevention. Severe acute respiratory syndrome (SARS): information for clinicians. Available from: *www.cdc.gov/ncidod/sars/clinicians.htm*. Accessed: April 7, 2003.
- Peiris JS, Lai ST, Poon LL. Coronavirus as a possible cause of severe acute respiratory syndrome. The Lancet 2003 Apr 8 (published online). Avaliable from: *http://image.thelancet.com/extras/03art3477web.pdf*. Accessed: April 8, 2003.

Acta Dermatovenerol Croat
2003;11(2):126-132

Three Studies in Pediatric and Adult Patients Demonstrate that Tacrolimus Ointment is Safe and Effective in the Treatment of Atopic Dermatitis

Ira Lawrence

Fujisawa Healthcare, Inc., Deerfield, IL, USA

INTRODUCTION

Tacrolimus ointment (Protopic®), a topical calcineurin inhibitor, is approved in many countries around the world for the treatment of atopic dermatitis in adult and pediatric patients (1-3). This article summarizes results from 3 recent clinical studies in adults and children with atopic dermatitis treated with tacrolimus ointment. Immune parameters were evaluated in 23 children 2 to 12 years of age with atopic dermatitis who applied 0.03% tacrolimus ointment twice daily for a total of 7 weeks. Patients were vaccinated with Pneumovax® (pneumococcal vaccine) during the third week of treatment. Data from two large multi-center trials involving 8,722 patients with atopic dermatitis who applied tacrolimus ointment continuously or intermittently for up to 4 years were combined and analyzed. Patients applied 0.03% or 0.1% tacrolimus ointment twice daily during episodes of atopic dermatitis and for 1 week after clearing of lesions.

Seven-week Study

There were an equal percentage of male and female patients and those with moderate or severe disease. The majority of patients were white, but there was a good representation of African Americans. There were no clinically significant changes over time for CBC, lymphocyte subsets (CD3, CD4, CD8, and CD 19 cell counts) and CD4/CD8 ratio. There was no clinically significant change in immunoglobulin (IgG, IgA, IgM, IgE) levels observed over time, or in the tetanus and *H. influenzae* antibody titers. All patients developed a protective antibody response to at least one pneumococcal serotype.

Long-term Studies

The demographics and baseline characteristics for the two long-term trials are summarized in Table 1. Rapid improvement of atopic dermatitis was observed during the first few weeks of treatment ($p<0.001$) and improvement continued throughout these long-term studies. There was no loss of effectiveness. Transient, mild, local application site reactions (pruritus and burning/stinging) were observed early in treatment, but were of short duration and rarely led to discontinuation. Patients with severe

Table 1. Demographics and baseline characteristics of patients with atopic dermatitis (1-4)

	Patients	
Characteristics	pediatric (n=4,350)	adult (n=4,372)
Male sex (%)	46.5	42.5
White (%)	69.5	74.9
African American (%)	17.0	13.7
Other (%)	13.5	11.5
Mean (±SD) age (years)	6.6±3.8	41.3±15.6
Atopic dermatitis severity (%):†		
mild	4.0	5.3
moderate	39.9	49.9
severe	56.1	44.7
Body surface area affected (%, mean±SD)	36.3±27.8	30.1±27.2

†Severity of atopic dermatitis based on Rajka and Langeland Criteria (4).

disease reported these application site events more frequently. The risk of adverse events including infections did not increase with long-term use of tacrolimus ointment. There were no reports of skin atrophy at the application site, even with treatment for up to 4 years.

CONCLUSION

Tacrolimus ointment does not affect levels of immunoglobulins, antibodies, lymphocyte subsets, nor does it interfere with the antibody response to pneumococcal vaccine in children with atopic dermatitis. Tacrolimus ointment has no systemic immunosuppressive effect and its immunomodulatory effect is limited to the skin. Tacrolimus ointment monotherapy is safe, and its effectiveness is maintained, even with long-term use. Tacrolimus ointment monotherapy may be a drug of choice for long-term treatment of atopic dermatitis.

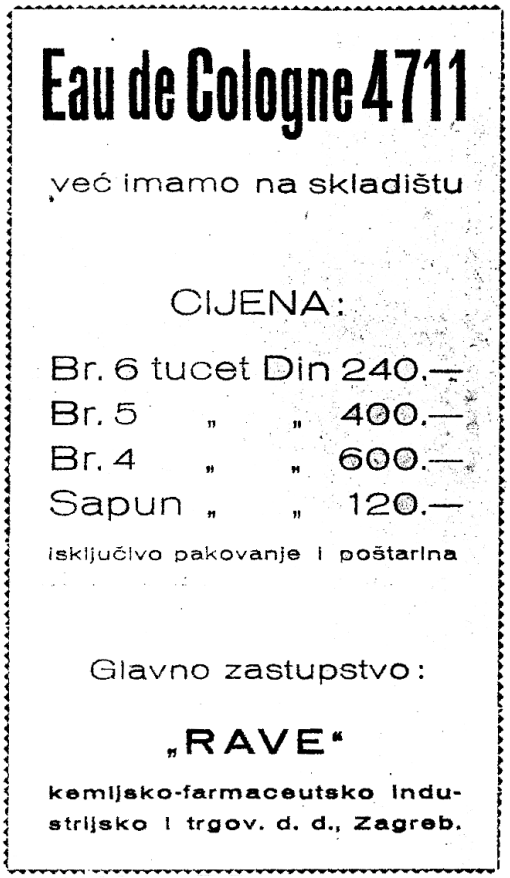
References

1 Tacrolimus ointment: Advancing the treatment of atopic dermatitis. J Am Acad Dermatol 2001;44:S1-72.

2 Reitamo S, Wollenberg A, Schopf E, Perrot JL, Marks R, Ruzicka T, et al. Safety and efficacy of 1 year of tacrolimus ointment monotherapy in adults with atopic dermatitis. The European Tacrolimus Ointment Study Group. Arch Dermatol 2000;136:999-1006.

3 Rico MJ, Lawrence I. Tacrolimus ointment for the treatment of atopic dermatitis: clinical and pharmacologic effects. Allergy Asthma Proc 2002;23:191-7.

4 Rajka G, Langeland T. Grading of the severity of atopic dermatitis. Acta Derm Vereol Suppl (Stockh) 1989; 144:637-44.



“Eau de cologne 4711” offered at fair prices (packaging and shipment expenses not included) in the form of cologne or soap.

From the collection of Stella Ferenčić-Fatović, M.D., Ph.D.

The First European Academy of Dermatology and Venerology Spring Symposium

The First European Academy of Dermatology and Venerology (EADV) International Spring Symposium, organized by Prof. Joseph Pace, was held in St. Julius Bay, Malta, from February 27 to March 1, 2003. The EADV Spring Symposium was held in cooperation with Internal Skin Care Nursing Group (ISNG) and Patients Associations represented in Malta, the EUROPSO, the Malta Psoriasis Association, ELEF European Group of Lupus Patients and Lupus Malta. There were 1,000 participants coming from 55 countries. The program included three Plenary focus sessions, six Plenary lectures, six workshops, 48 free communications, 170 posters, eight meetings of sister societies, and three satellite symposia about new therapies for eczema and psoriasis (Fig. 1).

The EADV provides continuing medical education (CME) in the fields of Dermatology and Venerology and helps maintaining high professional standards within our specialty, related professions, and health services. The CME Committee of the EADV developed an active evaluation program to optimize the practical and scientific content of the EADV Congress. Sessions in History of Medicine were organized on February 26, 2003, as a pre-congress activity. As an additional option for those interested in the History of Medicine, the Local Organizing Committee in cooperation with the University of Malta arranged a day's program that will be remembered as very successful.

Figure 1. The First Spring Symposium of the European Academy of Dermatology and Venerology.

Morning sessions were held in Fort St. Angelo, now sovereign territory of the Order of St. John. Several experts talked on the history of medicine in Malta, from the period before 1530, through the years of the Order in the 1530-1798 period, to the later period between 1800 and 1964 (a lecture titled "British connection"). The sessions were very successful. After a short guided tour of the castle, once a famous bastion in the stand against the Turkish Armada during the Great Siege in 1565, we were taken to Sacra Infermeria across the Grand Harbor in Valetta. Sacra Infermeria was once considered the best hospital in Europe and often referred to as «the real splendor of Malta». Today, it is the Mediterranean Conference Center, where the History of Dermatology meeting took place under the co-chairmanship of some of the most eminent experts in the field of History of Medicine: Prof. Karl Holubar from Vienna, Austria (President of European Society of History of Dermatovenerology), Prof. Lawrence Charles Parish from Philadelphia, USA (President of American Society of Dermatolovenerology), and Prof. Marcia Ramos-e-Silva from Rio de Janeiro, Brasil.

The Eponyms of Dermatology

How and why some skin disease was named after a person was the main topic of the afternoon

Figure 2. History of Dermatovenerology Meeting, Malta, March 26, 2003.

Figure 3. Prof. Alfredo Rebora gave the Evening Dinner lecture *Lichen Planus and the Liver*: *so old that it is somehow historical*.

sessions. Dermatologists are often faced with the nomenclature that includes the name of an important person associated with the cutaneous entity. These sessions aimed at reminding the clinicians of the contributions made by physicians whose names have become eponyms. Stella Fatović-Ferenčić from Croatia presented Kogoj's pustule; Michael Skerlev described Buschke-Löwenstein tumor, and Jasna Lipozenčić talked about Scleredema of Buschke. The following skin diseases was also presented: Gunter's disease, Bowen's disease, neurofibromatosis, anetoderma and atrophoderma psoriasis, urticaria, Hailey-Hailey disease, dermatitis herpetiformis, blastomycosis, Bourneville's disease, acrodermatitis, and pityriasis rosea (Fig. 2).

On February 25, 2003, Professor Alfredo Rebora gave the Evening Dinner lecture on Lichen Planus and the liver (Fig. 3).

Lupus Malta Prize for the best submission on Lupus erythematosus went to Stella Fatović-Ferenčić and Karl Holubar for the "History of lupus erythematosus" poster. Congratulations to the authors and Croatia. Other prizes were Shiseido Prize for the best submission on skin aging and Bank of Valetta Malta Prize for the best submission from a Mediterranean country.

For the first time, the Organizing Committee has accepted all lectures without compulsory registration. Thus, all submitted abstracts were published in the Journal of European Academy for Dermatology and Venerology although some of the authors could not join us in person at the Congress.

The Venue took place in Intercontinental Hotel Malta, bowling alley, a cinema complex, and a Heath Club in St. Julian's, Malta.

The Opening Ceremony on February 27, 2003, took place in the world famous St. John's Cathedral in Valetta, a home to the Caravaggio's famous Beheading of St. John. The event was preceded by a Choral/Organ Concert by courtesy of the Metropolitan Cathedral Chapter and St. John's Co-Cathedral Foundation. Prof. Guido de Marco, Patron of the Symposium, kindly offered the reception at the President's Palace. On March 1, 2003, a masked carnival ball was organized in Sacra Infermeria.

The oral communications in workshops covered the field of dermatopathology (inflammatory disorders; and nevi and neoplastic diseases); cosmetic dermatology (live transmission – office procedures; the AHA's historic development; and "How to do it" cosmetic dermatological surgical talks); approach to the patient with sexually transmitted infections; pediatric dermatology; photodynamic therapy; vitiligo; Internal Skin Care Nursing Group (ISNG). Plenary Sessions included Inflammatory Dermatoses; Sun Care; Skin Cancer; and Skin and Internal Diseases. Short presentations were as follows: General, Epidemiology, Quality of Life, Research, Cancer, Infection, and Treatment 1 and 2. The session on Atopic Dermatitis was organized by Lipozenčić and Ring.

Prof. A. Kapp from Hannover chaired the Fujisawa Satellite Symposium, "A New Therapeutic Paradigm in Atopic Dermatitis Management", where a 10-year experience in monotherapy with Protopic® was presented, as well as guidelines for its use in everyday practice.

Acta Dermatovenerol Croat
2003;11(2):133-137

Serono organized “The promise of biological therapies: new approaches in psoriasis”, which was co-chaired by J. H. Saurat and J. Pace. Moderate-to-severe psoriasis could be efficiently treated with efalizumab, a therapy that has every potential to bring about the improvement in the quality of life of such patients.

The First EADV International Spring Symposium held on Malta, February 27 – March 1, 2003, was successful in scientific as well as social aspects. The colleagues from Croatia participated with six posters and three lectures.

Prof. Jasna Lipozenčić, MD, PhD

What is the Significance of Dermatovenerology?

Report from the 5th Symposium of Sexually Transmitted Diseases with International Participation, Opatija, Croatia, April 14-16, 2003

The 5th Symposium on Sexually Transmitted Diseases with international participation was held in Opatija, April, 14-16, 2003 under the auspices of Ministry of Health of Republic of Croatia and Croatian Academy of Medical Sciences and the patronage of the 11 Societies of the Croatian Medical Association, including Dermatovenerological, Infectological, Epidemiological, Gynaecological, Primary Health Medicine, School Medicine, Urological, Society for Chemotherapy, and others.

Since the First Symposium in Dubrovnik five years ago, the Organizing Committee has been headed by Prof. Slavko Schoenwald, M.D., Ph.D., from the Department of Infectology, Zagreb University School of Medicine. Unfortunately, Prof. Schoenwald has passed away just a week before this year’s Symposium, which has been therefore dedicated to him. We believe that the values Prof. Schoenwald has built in these yearly meetings and his spirit will continue to live through all of us during the following years. Prof. Višnja Škerk, M.D., Ph.D, from the Department of Infectology, Zagreb University School of Medicine, has become the President of the Symposium this year, and Prof. Vesna Jureša, M.D., Ph.D., from the Department for School Medicine of the Zagreb University School of Medicine, and Assistent Prof. Mihael Skerlev, M.D., Ph.D., from the Department of Dermatology and Venerology of the Zagreb University Hospital Center and School of Medicine, have been appointed the Vice-Presidents of the Organizing Committee this year. The main topics of the Symposium were the following: HIV-infection/AIDS; Virus Hepatitis as STI; Prevention of Sexually Transmitted Infections (STIs); HPV-genital Infections; Association between STIs and Women with Genital Malignancies; Chronic Prostatitis as STI; Pelvic Inflammatory Disease; Genital Infections Caused by Chlamydia and Ureaplasma; and Free Communications. Two Satellite Symposia were also held, sponsored by Pharmaceutical Companies. GlaxoSmithKline sponsored the Symposium dedicated to the significance

Figure 1. 5th Symposium on STD with International Particitipation; Opatija, April 14-16, 2003.

of valacyclovir in the treatment of genital herpes; whereas Belupo sponsored the Symposium dedicated to the antibacterial drugs for the treatment of STIs. There were about 320 registered participants from different medical specialties, such as Infectology, Dermatovenerology, Gynecology, Medical Microbiology, School and University Medicine, General Medicine, Family Medicine, Urology, Epidemiology, and other.

Epidemiology, modern diagnostics, and therapy as well as some psychological aspects (Prof. Gruden, Department for Psychiatry, Zagreb University School of Medicine) of Sexually Transmitted Diseases (STD) were reported during plenary lectures. Sexually Transmitted Diseases are one of the major public health problems in the world, and the participants of the Symposium would like to make the Health authorities in Croatia also aware of that fact. The concept of this Symposium was multidisciplinary, as usual. However, we would like to report briefly on the active part of dermatovenerologists. The Section on HPV-genital infections was co-chaired and the plenary lectures dedicated to this topic presented by Assist. Prof. Mihael Skerlev from Zagreb and Dr. Marko Potočnik from the Department of Dermatology and Venerology of Ljubljana University School of Medicine, Slovenia. M. Skerlev draw attention to the HPV-genital infections today ranging from almost invisible, "subclinical" lesions harboring high-risk HPV types to the giant condylomata of Buschke-Löwenstein type. Dr Potočnik discussed the positive findings of HPV types on the apparently healthy skin of the genital area. Dr Hrvoje Cvitanović from Karlovac Medical Center presented interesting data on the epidemiology of genital warts in the Karlovac region. The Free Communications Section was co-chaired by Dr Branka Marinović, M.Sc., from the Department of Dermatology and Venerology of Zagreb University School of Medicine, and Assist. Prof. Mirna Šitum, M.D., Ph.D., from the Department of Dermatology and Venerology of Zagreb University Dentistry School, Sisters of Mercy University Hospital, Zagreb, Croatia. Dr Marinović presented a lecture dedicated to neurosyphilis, emphasizing (again) the traditionally high level of laboratory diagnostics of syphilis in the Serological Laboratory of the Department of Dermatology and Venerology of Zagreb University School of Medicine and the need for more active approach to the prevention and treatment of syphilis in Croatia. Assist. Prof. Šitum presented posters dedicated to the resolutive phase of syphilis and to the treatment of STIs.

There is a long list of interesting lectures presented at this year's Symposium by our colleagues belonging to different medical specialties. The multidisciplinary approach is important in the field of STIs. However, we would like to point out the interesting data regarding HPV-genital infections in women and pelvic inflammatory disease presented by Assist. Prof. Hrvoje Vrčić from the Department of Gynecology and Obstetrics of Zagreb University School of Medicine, as well as the lectures dedicated to the association between STIs and malignancies held by Dr. Zekan and Dr. Vujić from the same Department. The interesting data were also presented by Prof. Asim Kurjak and Assist. Prof. Sanja Kupešić from the Department of Gynecology and Obstetrics of Zagreb University School of Medicine and Holy Ghost Hospital. The lectures held by Prof. Škerk, Prof. Krhen, and Prof. Kraus (the last two from the Departments of Urology of Zagreb University School of Medicine and Dentistry School, respectively) were related to the role of *Chlamydia trachomatis* in the etiopathogenesis of prostatitis. The importance of the preventive strategies for STIs in the adolescent age was pointed out by Prof. Jureša, Dr. Kuzman, and Dr. Džepina, specialists in School Medicine. The significance of oral antibiotics used for treatment of STIs was presented by Prof. Francetić from the Department of Clinical Pharmacology, Zagreb University School of Medicine. The current aspects of hepatitis B and C diagnostics were presented by Dr. Adrijana Vince, Ph.D., whereas the antiretroviral drugs used for treatment of HIV-infection were summarized by Prof. Josip Begovac (both from the Department of Infectology, Zagreb University School of Medicine).

During this Symposium it soon became clear that the ever changing scientific knowledge regarding STIs has especially changed during the last 10 years due to the progress in molecular diagnosis and the development of rational pharmacotherapy, which have had a great impact on the current STD concept. The significant changes in epidemiology of STIs, their modified etiology, atypical clinical variations, and different treatment strategies were emphasized. All the participants were cordially invited

to attend the next Symposium, which is to be held in 2004 in Opatija, Croatia. It has been concluded at this year's Symposium that there is a strong need to constitute the STD Society of the Croatian Medical Association in order to raise the level of consciousness of STIs in Croatia, among many other tasks. In spite of the logical multidisciplinary spirit, we believe that our colleagues dermatovenereologists will participate more actively and in greater numbers in the years to come. We also believe that this is the best way for Dermatovenerology to maintain its significance and position!

Assist. Prof. Mihael Skerlev, M.D., Ph.D.
Branka Marinović, M.D., M.Sc.

"I am always healthy and happy" – Hofer baby powder. Available at the pharmacy next door.

From the collection of Stella Ferenčić-Fatović, M.D., Ph.D.

Marko Polo´s Diary

Stella Fatović-Ferenčić, ESHDV representative of Croatia

Malta: The First EADV International Spring Symposium, February 27 to March 1, 2003.

The EADV was founded as a non- profit association in Luxemburg in 1987 and has been growing ever since. The last EADV Congress shifted its venue more toward East, to Prague, thereby embracing the countries of the previous eastern block. This spring the EADV´s dynamics was broadened even more by the introduction of the Spring Symposia. The Mediterranean, the cradle of Western civilization, was almost symbolically chosen as a place of venue and the Maltese archipelago became its birthplace. Spring was not really on its way to warm me up when I arrived on February 25th at the Maltese airport, and a cold and sharp wind was chasing clouds across the sky. On the way to the hotel I noticed a lot of brownish yellow colors in the scenery and architecture. Certainly spring had not arrived here yet and for a while I felt sorry that the symposium was not organized a few weeks later, when the landscape would be painted in more vivid colors. However, there was no rain and I could easily take a refreshing walk along Spinola Bay before the History Dinner, which took part later in the evening. The dinner went by in pleasant conversations among friends and colleagues of both History societies. This time I was not the only participant from Croatia. Jasna Lipozenčić and Mihael Skerlev joined us as invited speakers at the Symposium. As always, a special lecture was given, this time by Alfredo Rebora from the University of Genoa, who spoke about *Lichen Planus and the Liver*: *so old that it is somehow historical*.

The following day, the traditional History Day, started with the History of Medicine Meeting at Fort St Angelo, which is official territory of the Order of Saint John. We were welcomed by the Resident Knight, and afterwards had the pleasure to gain knowledge about Malta's history and history of medicine. Superbly prepared lectures were delivered within the castle, the famous bastion and stand against the Turkish Armada in the Great Siege of 1565. The whole event was unique and extraordinary. In this regard, the main organizer Jo Pace must be congratulated. The afternoon session proceeded at the Sacra Infermeria, now the Mediterranean Conference Centre, across the Grand Harbor in Valetta. In older times, many considered it the best hospital in Europe, and we were pleased to be shown the long wards, where the sick were treated, the famous majolica collection, and the medical museum. After lunch, the Eponyms of Dermatology session started under the co-chairmanship of Karl Holubar, Marcia Ramos-e-Silva, and Larry Parish. In an era when the number of eponyms is increasing and a lot of controversy is taking place on that subject, the pioneers in the clinical art of disease recognition were enlivened before us and we all enjoyed their presence. As a matter of fact, the session attracted an exceptional high number of people and I could feel a delicate stream forming and flowing from past to present. The very first descriptions of diseases were associated to recent view points or clinical cases. We were all merged into an almost spiritual atmosphere, a space where original ideas and ingenious minds where exposed, and where all of a sudden a designation of past or present was irrelevant.

Acta Dermatovenerol Croat
2003;11(2):138-139

The following day, I attended a cosmetic dermatology live-session. I was really impressed. Strapped to my seat by curiosity, I could not restrain myself from thinking how the desire for physical beauty triumphs over all the risks, as it always has since the rise of mankind. Who would win, vanity or nature, science or our limitations, no one can tell. Yet – physical beauty seems to be imperative despite our constant claims that the real beauty is not skin deep.

The first day ended with a stylish opening ceremony at a Choral/Organ Concert at St John's Co-Cathedral, followed by the reception hosted by the President of Malta, under whose patronage the entire event of the first EADV Spring Symposium was held.

The following days went by quickly, packed with meetings, workshops, and late dinners. The war with Iraq was the top issue in the corridors and could not be avoided even during pleasant talks on literature, which I had with Jeffrey Bernard, the editor of the Blue Journal. The closing event crowned by a carnival party was arranged on Saturday evening. Ladies were dressed in black and gold; men in black. Masks were available right at the entrance. A delicious dinner with live music and candles followed. Indeed, what made me happy more that anything was the Malta Lupus Prize for the best submission on Lupus erythematosus, which Karl Holubar and I won as co-authors for our poster.

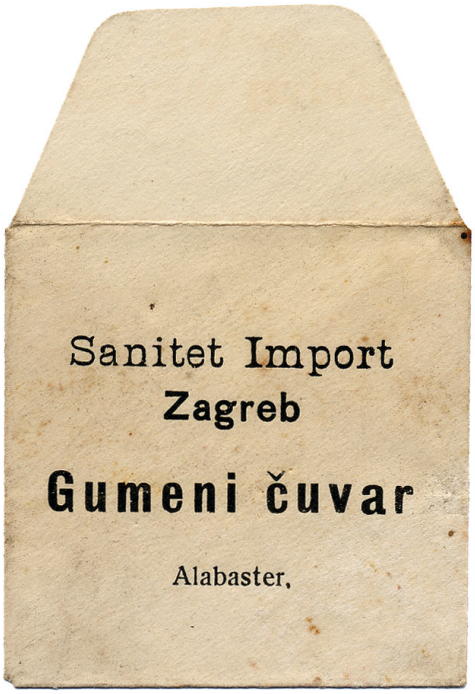
By the next morning, candles burnt out, the masks were down, and the first Spring Symposium of the EADV was over.

****

The world is waiting, sretan vam put!

stella@hazu.hr

****



"Rubber guard" – condom packaging.

From the collection of Stella Ferenčić-Fatović, M.D., Ph.D.

ANNOUNCEMENTS

14th Ljudevit Jurak International Symposium on Comparative Pathology, Zagreb, Croatia, June 6-7, 2003. Contact: Prof. Mladen Belicza, M.D., Ph.D., Department of Pathology, Sisters of Mercy University Hospital, Vinogradska cesta 29, 10000 Zagreb, Croatia; *www.kbms.hr/Jurak/symposium.htm*; e-mail: *juraks@kbsm.hr*

XXII Congress of the European Academy of Allergology and Clinical Immunology, Paris, France, June 7-11, 2003. Contact: Congrex Sweden AB, Attn: EAACI 2003, P.O. Box 5619, SE-11486 Stockholm, Sweden; e-mail: *eaaci2003@congrex.se, www.congrex.com/eaaci2003*

9th International Psoriasis Symposium, New York, USA, June 17-22, 2003. Contact: Skin Disease Education Foundation, 233 East Erie Street, Suite 700, Chicago, Illinois 60611; e-mail: *sdef@sdefmail.com; www.sdefderm.com*

Second Dermatology Update, National Skin Centre Singapore, Singapore, June 28-29, 2003. Contact*: www.ilds.org*

First World Congress on Work-Related and Environmental Allergy (1st WOREAL) & Fourth International Symposium on Irritant Contact Dermatitis, Helsinki, Finland, July 9-12, 2003. Contact: *secretariat@woreal.org; www.woreal.org*

International short course in dermoscopy, Graz, Austria, July 15-19, 2003. Contact: Lorenzo Cerroni, Department of Dermatology, University of Graz, Auenbruggerplatz 8, A-8036 Graz.

Summer Academy of Dermatopathology, Graz, Austria, July 21-25, 2003. Contact: Lorenzo Cerroni, Department of Dermatology, University of Graz, Auenbruggerplatz 8, A-8036 Graz.

15th Biennial Congress of the International Society for Sexually Transmitted Diseases Research (ISSTDR), Ottawa, Canada, July 27-30, 2003. Contact: 2003 ISSTDR Congress Secretariat, 251 Bank Street, Suite 401, Ottawa, Canada; e-mail: *information@isstdr.org; www.confersense.ca*

International Symposium on Atopic Dermatitis, Rome, Italy, August 29-31, 2003. Contact: Alberto Giannetti, *giannett@unimore.it;* Giampiero Girolomini, *giro@idi.it*

XVIII World Allergy Organization Congress ICACI, Vancouver, Canada, September 7-12, 2003. Contact: Sally Kolf, 611 East Wells Street, Milwaukee, WI 53202, USA; e-mail: *congress@worldallergy.org; www.worldallergy.org*

Current State on Psoriasis and Naphtalanotherapy, Symposium on Croatian Dermatovenerological Society of the Croatian Medical Association, Ivanić Grad, Croatia, September 19, 2003. Contact: Prof. Jasna Lipozenčić, Šalata 4, 10000 Zagreb, Croatia. Tel./Fax: +385-1-4920-014; e-mail: *jasna.lipozenčić@zg.tel.hr*

12th Congress of European Academy of Dermatology and Venerology, Barcelona, Spain, October 15-18, 2003. Contact: Unicongress, Calvet, 55, Baixos, 08021 Barcelona, Spain; e-mail: *eadv2003@unicongress.com; www.eadv.org*

6th Tergestinum Symposium on Psoriasis and 2nd Alpe Adria Meeting on Psoriasis, Bibione, Italy, November 7-8, 2003. Contact: Organising Secretariat, Via San Nicolo 14, 34121 Trieste, Italy. Tel +39 40 368343, Fax: +39 40 368808

Sexually Transmitted Diseases, Continuing Medical Education. Course organized by the University School of Medicine Zagreb and Croatian Dermatovenerological Society of the Croatian Medical Association, Šubićeva 9, 10000 Zagreb, Croatia, November 21-22, 2003. Contact: Prof. Jasna Lipozenčić, Šalata 4, 10000 Zagreb, Croatia. Tel./Fax: +385-1-4920-014; e-mail: *jasna.lipozenčić@zg.tel.hr*

9th Alple-Adria-Danube Congress of Sexually Transmitted Diseases and Infections of the Skin, Prague, November 27-30, 2003. Contact: *jana.hercogova@lfmotol.cuni.cz*

3rd World Congress of the International Academy of Cosmetic Dermatology, Beijing, China, December 7-10, 2003. Contact: IACD2003 Secretariat, Chinese Medical Meetings International, 42 Dongsi Xidajie, Beijing 100710, China; e-mail: *lillian.lee@263.nrz; www.chinamed.com.cn/IACD*

4th World Congress of IACD, Cairo, Egypt, April 12-18, 2004.

Second EADV International Spring Symposium, Budapest, Hungary, April 29-May 1, 2004. Contact: *www.eadvbudapest2004.com*; e-mail: *info@eadvbudapest2004.com*

9th International Congress of Dermatology, Beijing, China, May 2004. Contact: ICD2004 Secretariat, Dept. of Foreign Relations, Chinese Medical Association, 42 Dongsi Xidajie, Beijing 100710, China. e-mail: *ICD2004@chinamed.com.cn*; *www.chinamed.com.cn/dermatology*

23rd Congress of the European Academy of Allergology and Clinical Immunology, Amsterdam, Netherlands, June 12-16, 2004. Contact: Dept. Allergology, University Hospital Rotterdam, dr. Molewaterplein 40, NL-3015 GD Rotterdam, The Netherlands; e-mail: *degroot@algo.azr.nl; www.congrex.com/eaaci2004*

X World Congress of Pediatric Dermatology, Rome, Italy, July 7-10, 2004. Contact: Triumph Congressi, Via Lucilio, 60, 00136 Rome, Italy; e-mail: *dermo@gruppotriumph.it; www.gruppotriumph.it*

American Academy of Dermatology, Academy '04, New York, USA, July 28-August 1, 2004.

13th Congress of the European Academy of Dermatology and Venerology, Florence, Italy, November 17-21, 2004. Contact: e-mail: *president@eadv2004.org; info@eadv2004.org*

10th World Congress on Cancers of the Skin, Vienna, Austria, March 19-23, 2005. Contact: Elfriede Pomp, Department of Dermatology, University of Vienna, Vienna General Hospital, Waehringer Guertel 18-20, A-1090 Vienna, e-mail: *info@wccs.at; www.wccs.at*

6th World Congress on Melanoma, Vancouver, B.C., Canada, September 2-9, 2005. Contact: Venue West Conference Services Ltd., Vancouver, B.C., Canada; e-mail: *congress@venuewest.com*

INSTRUCTIONS TO AUTHORS

ACTA DERMATOVENEROLOGICA CROATICA (ADC) is a quarterly peer-reviewed journal, indexed in Index Medicus/MEDLINE and Excerpta Medica/EMBASE. It publishes original scientific articles, short scientific communications, clinical articles, case reports, reviews, reports, news and comments, and announcements in the fields of dermatology and venerology.

General Guidelines

Type the complete manuscript double-spaced, on one side of A4 bond paper, with a left side margin of at least 4 cm.

The manuscripts should not exceed 12-15 typed pages in case of original scientific papers, and 6-8 pages in case of short communications, clinical articles, case reports, and reviews.

The manuscripts should be written in English. The authors are responsible for ensuring that the English used is suitable for publication. All material is assumed to be submitted exclusively to this journal.

All manuscripts are subject to peer review.

Manuscript Preparation

Title Page

The title page should carry (a) the title of the paper, which should be concise but informative; (b) full name of each author, with institutional affiliation; (c) name(s) of department(s) and institution(s) to which the work should be attributed; (d) name and address (with telephone and fax numbers as well as the e-mail adress) of the author to whom requests for reprints should be addressed; (f) source(s) of support in the form of grants, equipment, drugs, or all of these; and (g) a short running head of not more than 40 characters (count letters and spaces) at the foot of the title page.

Second Page

The second page should carry a summary of not more than 250 words, followed by three to six key words from the Medical Subject Headings (MeSH) list of Index Medicus.

Manuscript

The text of observational and experimental is usually, but not necessarily, divided into sections with the headings Introduction, Material (Patients) and Methods, Results, and Discussion. Long articles may need subheadings within some sections to clarify their contents, especially Results and Discussion sections. Other types of articles, such as case reports, reviews, and editorials, are likely to need other format.

Abbreviated terms should be written in full the first time they are used in the text, with abbreviation in parentheses.

Underline the words that must be printed in italic.

References should be identified in the text by arabic numerals in parentheses, and be numbered and listed consecutively at the end of the manuscript in the order in which they are first cited in the text.

Indicate in the text where the illustrations (figures and tables) should be inserted.

Tables and figures should be provided each on a separate sheet of paper after the references. Descriptive legends to figures should be typed double-spaced on a separate sheet of paper, whereas figures should be submitted in an envelope, with the number, the name of the (first) author, and title of the manuscript on the back: each table should be typed on a separate sheet of paper, numbered in the order in which they are first cited in the text, with a title and descriptive legend. Terms used in tables should not be abbreviated.

Ethics

When reporting experiments on human subjects, indicate whether the procedures were in accordance with the ethical standards of the responsible committee on human experimentation (institutional or regional) or with the Helsinki Declaration from 1975 as revised in 1983. Do not

use patients, names, initials or hospital numbers, especially any illustrative material.

Statistics

Describe statistical methods and provide enough data to enable a knowledgeable reader to assess the reported results him or herself. Please state the statistical package (version, manufacturer) used for statistical analysis.

Acknowledgements

Please specify: (a) contributions that need acknowledging but do not justify authorship, such as general support by a departmental chairman; (b) acknowledgements of technical help; (c) acknowledgements of financial and material support, specifying the nature of support; (d) financial relationship that may be a source of conflict of interest. Technical help should be acknowledged in a separate paragraph as well as other contributions.

References

References should be typed double-spaced on a separate sheet of paper. The Vancouver style, proposed by the International Committee of Medical Journal Editors, is used (Engl J Med 1991,324:421-8, BMJ 1991,302:338-41, or *www.icmje.org*) . Examples of correct forms of references are given below:

Journal article

Standard journal article (list all authors, but if their number exceeds six, give six followed by et al.)

You CH, Lee KY, Chey RY, Menguy R. Electrogastrographic study of patients with unexplained nausea, bloating and vomiting. Gastroenterology 1989;79:311-4.

Chapter in a book

Weinstein L, Swartz MN. Pathologic properties of invading microorganisms. In: Sodeman WA Jr, Sodeman WA, editors. Pathologic physiology: mechanisms of disease. Philadelphia: Saunders; 1974. p. 457-72.

Article not in English

Massone L, Borghi S, Pestarino A, Piccini R, Gambini C. Localisations palmaires purpuriques de la dermatite herpetiforme. Ann Dermatol Venerol 1987;114:1545-7.

Conference paper

Harley NH. Comparing radon daughter dosimetric and risk models. In: Gammage RB, Kaye SV, editors. Indoor air and human health. Proceedings of the Seventh Life Sciences Symposium; 1984 Oct 29-31; Knoxville (TN). Chelsea (MI):Lewis, 1985:69-78.

Disertation

Youssef NM. School adjustment of children with congenital heart diseases (dissertation). Pittsburgh (PA): University of Pittsburgh; 1988.

Manuscript Submission

Manuscripts should be printed on paper and submitted in triplicate, with one copy on a floppy disk, and sent to:

Editorial Office

Department of Dermatology and Venerology

Zagreb University Hospital Center

Šalata 4, 10000 Zagreb, Croatia

e-mail: *jasna.lipozencic@zg.tel.hr*

Manuscripts on Disks

Floppy disks should be 3.5-inch (1.44 MB) IBM formatted and labeled with the name of the author.

The file, the word-processing program, and version used should be indicated by pen. MS-Word for Windows is preferred, although manuscripts prepared using any other IBM-compatible word-processor are acceptable.

Avoid complex formatting; the text will be styled according to the ADC design specifications. Do not use bold, capitalized text, or a running head. Do not use footnotes or endnotes. Submit the text, tables, and illustrations as separate files. For tables, always use table editor function; ensure that each data point is contained within a unique cell, i.e. do not use carriage returns within cells. For illustrations, the preferred formats are TIFF of 300 dpi resolution, although any format in general use is acceptable provided it is not application-specific. If MS Excell is used for charts make sure to enclose original Excell file.