

Analysis of Emergency Cases in the Clinic of Maxillofacial and Oral Surgery, Clinical Hospital “Dubrava”

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Summary

We analyzed emergency cases in order to define the reasons for patient admittance age group and gender, the periods of more frequent arrivals for certain diseases and correlation of particular diseases with age groups. The investigation included 2.766 emergency cases, examined in the Department of Oral and Maxillofacial Surgery during the period from 1 January to 31 December 1998. We took into consideration the following parameters: gender, age, day, month, the reason for admission and the need for urgent hospitalization. Of the 2.766 patients 58,10 % were men, most frequently aged from 16 to 30 years. Saturday and Sunday are the days and May the month with the greatest number of emergency cases. The greatest number of dental trauma occur in patients younger than 15 years and the greatest number of bone fractures occur in May. Odontogenic inflammation is most frequent from 16 to 30 years and their occurrence cannot be related to any specific time of the year. Odontogenic inflammation which is not a true surgical case according to the clinical appearance is the most common reason for admittance of patients. With regard to the aforementioned, the need for improvement of medical education of patients and general dental services in terms of prevention is required.

Key words: *emergency cases, oral and maxillofacial surgery, odontogenic inflammations, trauma.*

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Introduction

Every day, including Saturdays, Sundays and holidays, staff at the Clinic of Maxillofacial and Oral Surgery, Clinical Hospital “Dubrava” are on duty. During working hours emergency cases are dealt with in regular outpatient departments and later in the Centre for Emergency Medicine.

In 1991 and 1994 Ujević (1) and Begić (2) analysed emergency patients in the Clinic of Maxillofacial and Oral Surgery, Clinical Hospital Centre, “Šalata”. Odontogenic inflammations were the most frequent reason for the arrival of patients, who ranged in age from 16 to 30 years. Soft tissue injuries of the orofacial region were the second most frequent reason. After 10th April 1995 the Clinic

moved from the Clinical Hospital Centre, Zagreb-Šalata to the new location at the Clinical Hospital Dubrava.

Analysis of emergency cases provides insight into the age structure of patients, the periods of more frequent arrivals, and no less important, the reasons why patients seek urgent help. The aim of the analysis was to obtain data for comparison with 1991 and 1994, and to establish whether certain diseases occur more frequently and more often in particular age groups.

Material and Methods

analysis included all patients requiring help in the Clinic of Maxillofacial and Oral Surgery, Clinical Hospital Dubrava during 1998. Protocols for the Centre for Emergency Medicine and of the Outpatient Department of the Clinic of Maxillofacial and Oral Surgery for 1998, were examined.

Patients were classified according to the following parameters: sex, age, reason for arrival, day and month of arrival and the need for hospitalisation of individual patients. The object of the analysis was to show:

1. Distribution of emergency patients according to sex and age groups (patients were divided in five age groups: under 15 years, from 16 to 30 years, from 31 to 45 years, from 46 to 60 years and older than 60 years).
2. Distribution of emergency patients according to days in the week and months in the year.
3. Reasons why patients requested emergency help.
4. Distribution of the most frequent diseases according to age groups, and months in the year.
5. Indications for hospitalisation.

Results

From 1st January 1998 to 31 December 1998 emergency help was sought by 2 766 persons in the Clinic of Maxillofacial and Oral Surgery, Clinical Hospital Dubrava. Of this number 1 607 were men (58.10%) and 1 159 women (41.90%). There were 998 persons in the most vital age group, i.e. aged from 16 to 30 years, which is considerably more

than in other age groups (Figure 1). Saturday and Sunday are the days with the most cases, and Tuesday with the least (Figure 2). The highest number of patients was in May, and the least during January and September (Figure 3).

Odontogenic inflammation was the most frequent reason for patients' arrival (33.94%). Inflammations were more frequent in men than in women. With regard to incidence, this was followed by soft tissue injuries, dental trauma and bone fractures (Table 1).

Odontogenic inflammation and soft tissue injuries occurred most frequently in the age group from 16 to 30 years, and least in the age group of over 60 years. Dental trauma was most frequent in the age group up to 15 years (Figure 4).

An increase in dental trauma was recorded in May, when the highest number of patients with bone fractures was seen. There was no essential difference in the incidence of odontogenic inflammation with respect to months (Figure 5).

Out of the 2 766 persons, 130 (4.7%) were urgently hospitalised. Eighty-seven patients were hospitalised due to bone fractures, and 27 because of cysts (Table 2).

Discussion

Distribution of emergency patients according to age groups in 1998 corresponds to the results obtained by Ujević (1) and Begić (2) for 1991 and 1994. In the aforementioned investigations the authors reported Saturday and Sunday as the days with the highest number of emergencies. In their study Sonis and Valachovic (3) recorded a higher number of emergency patients over the weekend, 19% of arrivals on Saturday and 19% on Sunday.

In 1994 (2) and in this investigation, namely 1998, the highest number of emergency patients was in May, while in 1991 it was December (1).

In this investigation odontogenic inflammation was the most frequent reason for arrival of emergency patients. Odontogenic inflammation most frequently occurs as the result of the spreading of infection from a carious tooth into the region of the periapex (4). Symptoms appear when the inflam-

mation involves the bone and soft tissues, and frequently prevents swallowing, speech or even breathing (5) when patients most often seek help. This indicates the problem of insufficient health education of the patients with respect to oral cavity health, as well as the failure of endodontic treatment. Silverman and Eisenbud reported that 67% of their subjects, prior to arrival in the emergency service, had been treated by their customary dentists (6). Unfortunately, history data in the clinical documentation analysed in this investigation were insufficient.

In 1991, odontogenic inflammation was the reason for the arrival of 31.43% of patients to the Emergency Service in the Šalata Clinic (1), while in 1994 this was the reason in 28.85 of cases (2). In his study Čabov stressed that ostitis periapicalis amounted to 33.30% of all the diagnoses, because of which patients were referred to the Department of Oral Surgery at the Clinical Hospital Rijeka (7).

Ujević and Begić observed that odontogenic inflammation was most frequent in the age group between 15 and 30 years (1, 2), which corroborates the results of this investigation.

Škrinjarić et al. reported that the distribution of dental trauma showed the highest incidence in the autumn (September, October and November), and the lowest in the summer (July and August) for 1976, 1978 and 1980, with a higher prevalence in boys (8, 9), indicating the seasonal character of dental trauma.

Mihoković did not find essential difference in the incidence of odontogenic cysts according to the months and seasons of the year, which indicates that their occurrence has no seasonal character (10).

In this investigation soft tissue injuries were less often the reason for hospitalisation of patients than

in 1991 and 1994 (1, 2). This can be explained by the fact that during those two years injuries caused by firearms prevailed because of the war, in contrast to 1998, during which there were more such injuries, but which were treated in outpatient departments, which is an indicator of the increase in "petty crime".

In 1991 and 1994 bone fractures were the most frequent reason for hospitalisation of patients (1, 2). In their study Gerbino et al. report that of the total number of persons treated with maxillofacial trauma, during the period from 1987 to 1996, 59.90% were hospitalised and surgically treated (11).

Conclusion

Odontogenic inflammation is more frequent in men and the main reason for the arrival of patients to the emergency unit. A reduction in the occurrence of odontogenic inflammation would be possible by the health education of patients and emphasis of the need and importance of regular check-ups and appointments with the dentist. Patients most frequently arrive to the emergency unit in an advanced stage of disease with inflammation which has spread into the bone and soft facial tissue. Education of the dentist and treatment of odontogenic inflammation at the primary dental level would also be preventive.

Odontogenic inflammation does not show uniform distribution with regard to the month of the year. Dental trauma, which is most frequent up to the age of 15 years, and bone fractures are more frequent in May compared to other months.

With regard to incidence, soft tissue injuries, dental trauma and bone fractures, which according to clinical appearance correspond to surgical cases, follow after odontogenic inflammations.