

## LOCAL CRYOTHERAPY, COMPARISON OF COLD AIR AND ICE MASSAGE ON PAIN AND HANDGRIP STRENGTH IN PATIENTS WITH RHEUMATOID ARTHRITIS

Nadica Laktašić Žerjavić<sup>1,2</sup>, Emina Hrkić<sup>1</sup>, Iva Žagar<sup>1,2</sup>, Valentina Delimar<sup>2,3</sup>,  
Kristina Kovač Durmiš<sup>1,2</sup>, Sanda Špoljarić Carević<sup>4</sup>, Marta Vukorepa<sup>5</sup>,  
Andreja Matijević, Nikolino Žura<sup>2</sup> & Porin Perić<sup>1,2</sup>

<sup>1</sup>University of Zagreb, School of Medicine, Zagreb, Croatia

<sup>2</sup>University Department of Rheumatology and Rehabilitation, University Hospital Centre Zagreb, Zagreb, Croatia

<sup>3</sup>Special Hospital for Medical Rehabilitation Krapinske Toplice, Krapinske Toplice, Croatia

<sup>4</sup>Special Hospital for Medical Rehabilitation Naftalan, Ivanić Grad, Croatia

<sup>5</sup>Special Hospital for Medical Rehabilitation Varazdinske Toplice, Varaždinske Toplice, Croatia

**Background:** The main benefits of cryotherapy in rheumatoid arthritis (RA) are in reducing inflammation and swelling and in relieving joint pain. This study aimed to compare the short-term effects of cold air therapy vs. ice massage, on pain and handgrip strength (HGS) in patients with RA.

**Subjects and methods:** The study is a non-randomized clinical trial. Patients were recruited if they had disease activity score (DAS28)  $\geq 3.2$  with at least 2 swollen joints on the dominant hand and were consecutively divided into two groups of 15 patients. There was no statistically significant difference in DAS28 score between groups. The first group received cold air therapy at  $-30^{\circ}\text{C}$  and the second ice massage of the hands. The pain (visual analogue scale, 0-10), and HGS (kg) were measured immediately prior and after cryotherapy, and 30 and 60 minutes after cryotherapy. Descriptive statistics, Independent Samples T-test, and Paired Samples T-test were used for statistical analysis.

**Results:** Pain intensities for cold air therapy were as follows: 5.33 ( $\pm 2.44$ ), 3.13 ( $\pm 2.67$ ), 2.87 ( $\pm 2.56$ ), 2.80 ( $\pm 2.73$ ), and for ice massage were: 5.20 ( $\pm 2.37$ ), 2.87 ( $\pm 2.42$ ), 2.60 ( $\pm 2.23$ ), 2.67 ( $\pm 2.28$ ). In both groups pain was significantly lower immediately after, 30 and 60 minutes after the treatment compared to the baseline ( $p=0.001$ ). There was no significant difference in pain alleviation between the groups regarding the used method of cryotherapy on all three measured time points. Nonsignificant improvement in HGS occurred after both methods of cryotherapy. There was no significant correlation between pain intensity and HGS.

**Conclusions:** A single application of cold air therapy and ice massage equally provides immediate and significant pain alleviation in patients with active RA, which is maintained for one hour.

There is scientific evidence that HGS is influenced greatly by the disease activity. A single application of cryotherapy could not reduce disease activity explaining recorded nonsignificant effect on HGS.

**Key words:** rheumatoid arthritis - cryotherapy - pain - handgrip strength

\* \* \* \* \*

## ANTI-TNF THERAPY AND THE RISK OF MALIGNANCIES AND INFECTIONS IN INFLAMMATORY RHEUMATIC DISEASES - OUR EXPERIENCE

Mislav Pap<sup>1</sup>, Ivana Sapina<sup>1</sup>, Nadica Laktašić-Žerjavić<sup>1,2</sup>, Iva Žagar<sup>1,2</sup>, Kristina Kovač Durmiš<sup>1,2</sup>,  
Nataša Kalebota<sup>1</sup>, Petra Kovačević<sup>3</sup>, Ivan Ljudevit Caktaš<sup>4</sup>, Vanja Dekleva<sup>1</sup>, Duje Birkić<sup>1</sup>,  
Helena Kolar Mitrović<sup>1</sup> & Porin Perić<sup>1,2</sup>

<sup>1</sup>University of Zagreb, School of Medicine, Zagreb, Croatia

<sup>2</sup>University Department of Rheumatology and Rehabilitation, University Hospital Centre Zagreb, Zagreb, Croatia

<sup>3</sup>University of Mostar, Faculty of Medicine, Mostar, Bosnia and Herzegovina

<sup>4</sup>Terme Topusko, Topusko, Croatia

**Background:** Early diagnosis is the key to successful treatment of inflammatory rheumatic diseases and the use of conventional disease-modifying antirheumatic drugs (csDMARD) and biologic disease-modifying antirheumatic drugs (bDMARD) or biologics have substantially contributed to better disease control. Biological drugs have been approved for the treatment of rheumatoid arthritis (RA), juvenile arthritis (JIA), ankylosing spondylitis (AS) and psoriatic arthritis (PsA).

**Subjects and methods:** The study involved 79 adult patients with rheumatoid arthritis (RA) and ankylosing spondylitis (AS), psoriatic arthritis (PsA) or undifferentiated spondyloarthropathy (USpA) - the

last three clinical entities belong to a common group called spondyloarthropathies (SpA); receiving anti-TNF therapy at the department of Rheumatology and Rehabilitation, Clinical Hospital Center Zagreb. The duration of therapy was a minimum of 1 month, with the mean duration of 32,0±24,0 months. The infections recorded were infections that appeared during treatment or soon after the treatment was stopped.

**Results:** During the course of therapy 17 patients (21.5%) experienced an infection, with the total number of 21 infections. This resulted in an overall incidence rate (IR) of 9.9/100 patient-years. Of the patients with RA 76,5% developed an infection, which was significantly higher than for patients with SpA ( $p<0.001$ ). The IR/100 patient-years for all infections in RA patients was 23.7 compared to 2.8 in patients with SpA. Female gender was associated with a significantly higher infection rate (70.6%,  $p=0.005$ ). There were 8 infections that were considered serious, yielding an IR of 3.8/100 patient-years. There was only one malignancy case in our study.

**Conclusion:** Every fifth patient developed an infection during the course of anti-TNF therapy, and more than one third of all infections were serious. RA and female gender was associated with a significantly increased number of infections.

**Key words:** anti-tnf therapy - inflammatory rheumatic diseases - infections - malignancies

## COMORBIDITIES IN ALCOHOL USE DISORDERS IN TUZLA CANTON AREA - BOSNIA AND HERZEGOVINA

Miralem Mešanović<sup>1,2</sup>, Izet Pajević<sup>1,2</sup> & Mevludin Hasanović<sup>1,2</sup>

<sup>1</sup>Department of Psychiatry University Clinical Center Tuzla, Tuzla, Bosnia and Herzegovina

<sup>2</sup>School of Medicine University of Tuzla, Tuzla, Bosnia and Herzegovina

**Introduction:** Previous research has shown the simultaneous presence of health diseases and alcohol use disorder (AUD). This research emphasizes the importance of individual diseases, the simultaneous presence and connection of different diseases, which creates the conditions for more adequate treatment of patients with AUD.

Determine somatic, neurological and psychiatric diseases in patients with AUD in the Tuzla Canton (TK) in the period from 01.01.2011. to 31.12.2015.

**Subjects and methods:** A retrospective study on the systematic cause of 1,863 patients with AUD recorded in the TK health system.

**Results:** Among 1004 (53.9%) patients with AUD, somatic diseases were present; in men: arterial hypertension 573 (31.7%), alcoholic liver disease 269 (14.9%), diabetes mellitus 211 (11.7%); and in women: arterial hypertension 27 (49.1%), diabetes mellitus 27 (49.1%), elevated lipoproteins 3 (5.5%); alcoholic liver disease 1 (1.8%) and anemia 1 (1.8%). Among 1196 (64,2%) patients with AUD, neurological diseases were present; in men: cognitive impairment 627 (34.7%), post-stroke condition 418 (23.1%), polyneuropathy 269 (14.9%); and in women, post stroke condition 28 (50,9%). Psychiatric comorbidity was determined in 1619 (86.9%) patients with AUD; in men: depressive disorder 806 (44.6%), personality disorder 660 (36.5%), while nicotine addiction 27 (1.5%) and dementia 13 (0.7%) were least present; in women: personality disorder 33 (60.0%), neurotic disorder 27 (49.1%), depressive disorder 22 (40.0%). The largest number of patients with somatic (787 or 42.25%), neurological (939 or 50.40%) and psychiatric comorbidity (939 or 50.40%) belonged to the age group 55-64.9 years.

**Conclusion:** Slightly more than half of the patients with AUD were diagnosed with somatic diseases, almost two thirds were diagnosed with neurological diseases and with more than four fifths of patients were diagnosed with psychiatric diseases. Of the somatic diseases the most common ones were, arterial hypertension, diabetes mellitus, and alcoholic liver disease; from neurological diseases: cognitive impairment, post-stroke condition and polyneuropathy; and the most common of psychiatric illnesses were depressive disorder and personality disorder. The largest number of patients are in the ages of 55-64.9.

**Key words:** medical characteristics - alcohol use disorder - Bosnia and Herzegovina

\* \* \* \* \*