However, a case-control study with a larger population is necessary to determine whether patients with RA express more shame and guilt than their peers without RA.

REFERENCES:

- [1] Andrews B, Qian M, Valentine JD. Predicting depressive symptoms with a new measure of shame: the Experience of Shame Scale. *Br J Clin Psychol* 2002;41:29-42.
- [2] Tangney JP, Dearing RL, Wagner PE, Gramzow R (2000) The Test of Self-Conscious Affect-3 (TOSCA-3). George Mason University, Fairfax.

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FRI0031

ASSESSMENT OF EFFICACY, SAFETY AND IMMUNOGENICITY OF A TRIVALENT SPLIT-VIRUS INFLUENZA VACCINE IN PATIENTS WITH RHEUMATIC DISEASES

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Background: In current rheumatology practice concurrent infections produce significant negative impact on patients' morbidity, mortality and quality of life. Based on WHO estimations the annual incidence of influenza in adult population amounts to 5-10% worldwide. Influenza can lead to hospitalization (3 to 5 million cases per year) and even death (250-500 thousand cases per year). Flu and its complications rates are higher in patients with rheumatic diseases (RD) as compared to general population. Therefore, prevention of influenza should be viewed as integral part of RD population management.

Objectives: To study the safety, efficacy and immunogenicity of inactivated split-virus influenza vaccine in patients with rheumatoid arthritis (RA) and ankylosing spondylitis (AS).

Methods: 126 subjects (90 females and 36 males, aged 22 - 82 y) with recent acute respiratory viral infections (ARVI) and flu episodes in medical records were enrolled, including 52 RA patients, 34 AS patients and 40 healthy volunteers as the control group. 39 RA pts received methotrexate (MTX), 12 - TNF α inhibitors +MTX, 8 - Leflunomide, 2 - abatacept, 2 - sulfasalazine, 1 - tofacitinib + MTX. 19 AS patients were treated with nonsteroidal anti-inflammatory drugs (NSAIDs), 15 -with TNF α inhibitors. The RD duration ranged from 2 months to 46 years. All participants were injected subcutaneously with one dose (0.5 ml) of the trivalent inactivated influenza vaccine containing the actual influenza virus strains, with ongoing therapy. The control visits were scheduled at baseline, and in 1, 3 and 6 months after vaccination (Visits 0, 1, 2 and 3, respectively). Standard clinical and laboratory tests were performed during each visit. Immunogenicity of vaccine was measured with ELISA test kits.

Results: Vaccine tolerability was good in 103 participants (77.4%). Post-vaccination pain, swelling and redness of the skin up to 2 cm in diameter were registered in 20 cases (15%), low-grade fever, myalgia and malaise were documented in 10 cases (7.5%). There was no casual relationship between these reactions and principal therapy, therefore, no modifications of therapeutic regimens were required, and complete resolution occurred within 24 hours without additional interventions. No RD exacerbations or new autoimmune disorders were observed during the FUP. At baseline mean pts' DAS28 and BASDAI scores were 3.56 and 3.85, improving up to 1.99 and 3.09, respectively, 6mo post-vaccination. For the entire FUP there were no cases of influenza or influenza-like illness registered.

The proportion of respondents to the vaccine is 70% in the group of patients with RD and 75% in the main group. The level of humoral immune response was not significantly different in the group of patients with RD and in the control. It is noteworthy that there were no significant differences in the level of post-vaccination response after a month ($p = 0.6$) or after 3 or 6 months of observation. In patients with AS, there were significantly more responses to vaccines in patients with a long duration of the disease and low activity according to the BASDAI index ($p < 0.05$). There was no significant effect of the treatment of RH on the level of post-vaccination response; there were also no differences in the level of post-vaccination response between patients with different RD.

Conclusion: Therefore, our results show good tolerability, efficacy and immunogenicity of inactivated split-virus influenza vaccine in RA and AS patients. Future studies on larger patients' populations are warranted for more complete evaluation of vaccine safety and efficacy.

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FRI0032

HIGH INDEX OF SEDENTARY BEHAVIOR IN PATIENTS WITH INITIAL RHEUMATOID ARTHRITIS: DATA FROM A LONG COHORT OF INITIAL RA

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Background: The abandonment of a healthy lifestyle can have great impact on the quality of life, the response to the treatment and the control of the symptoms, like pain and fatigue on RA patients. Smoking is a proven trigger in the pathophysiology of RA, but studies show that it also participates in inflammatory activity throughout the course of the disease. RA patients are more likely to develop various comorbidities and increased cardiovascular risk when compared to the general population.

Objectives: To access physical activity engagement along with alcohol and cigarette consumption.

Methods: A cross-sectional study was carried out with patients with rheumatoid arthritis who received treatment on the initial stage of RA and followed up during 15 years in an initial RA cohort of a University Hospital. Participants underwent standardized clinical evaluation and analysis of complementary exams. The study was approved by the Ethics Committee.

Results: A total of 107 RA patients were evaluated. In the sample, 98% of the women were found, with a median age of 52 years. The mean duration of illness was 12.8 years and 11.3% had erosive disease. In relation to the habits of life, the physical activity level, prevalence of alcoholism and smoking were investigated. In general, our population was characterized by non- alcohol users (93.5%), non- smokers (75.7%) and not engaged into regular physical activities (56.1%). In relation to frequency, 21.5% of the patients exercised a minimum of three times a week, 16.8% once or twice a week and 5.6% once or twice a month. The practice of physical activity may be difficult for the patient with RA, who often has functional limitations, but is still of great importance, since it improves the response to treatment, prevents the onset of other comorbidities, or worsening of previous diseases, complications and promotes the improvement of the quality of life.

Conclusion: Even with a multidisciplinary approach and health care professionals qualified to instruct and emphasize the importance of engaging on an active lifestyle, RA patients remain mostly sedentary after 15 years of follow up. Perhaps other strategies of intervention should be investigated to improve such habits.

REFERENCES:

- [1] Løppenthin, K. et al. Physical activity and the association with fatigue and sleep in Danish patients with rheumatoid arthritis. *Rheumatol. Int.* 35, 1655–1664 (2015).
- [2] Demmelmaier, I., Pettersson, S., Nordgren, B., Dufour, A. B. & Opava, C. H. Associations between fatigue and physical capacity in people moderately affected by rheumatoid arthritis. *Rheumatol. Int.* 38, 2147–2155 (2018).
- [3] Manfredsdottir, V. F. et al. The effects of tobacco smoking and rheumatoid factor seropositivity on disease activity and joint damage in early rheumatoid arthritis. *Rheumatology* 45, 734–740 (2006)
- [4] Waldschmidt, T. J., Cook, R. T. & Kovacs, E. J. Alcohol and inflammation and immune responses: summary of the 2005 Alcohol and Immunology Research Interest Group (AIRIG) meeting. *Alcohol Fayettev. N* 38, 121–125 (2006).
- [5] Rajakulendran, S., Gadsby, K. & Deighton, C. Rheumatoid arthritis, alcohol, leflunomide and methotrexate. Can changes to the BSR guidelines for leflunomide and methotrexate on alcohol consumption be justified? *Musculoskeletal Care* 6, 233–246 (2008).

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FRI0033

QUANTIFERON GOLD-PLUS AND TUBERCULIN SKIN TEST REACTIVITY PREDICTORS IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: RA patients have high latent tuberculosis (LTBI) prevalence (20-37%)¹. In Mexico, ranges from 21.7% to 31.3% using tuberculin skin test (TST)². The methods to detect LTBI are TST and IGRAs. QuantiFERON Gold-Plus (QTF-Plus) uses an antigen tube (TB1) that stimulates CD4+T cells and an additional tube (TB2) that also stimulates CD8+T cells³.

Objectives: Determine the LTBI prevalence, variables that predict QTF-Plus and TST results and the concordance between TST and QTF-Plus in RA patients.

Methods: A cross-sectional study in RA patients from the rheumatology department of the University Hospital "José E. González" in Mexico between October 2017 and June 2018. RA patients with ACR/EULAR 2010 classification criteria without a history of tuberculosis (TB) were included. QTF-Plus was performed according to manufacturer instructions. TST was applied with the Mantoux technique; a ≥ 5 mm cutoff was used. The square chi and Fisher test were used for proportions, Mann-Whitney to compare means, trend analysis using linear trend test and a binary logistic regression model for variables related to positivity to both tests.

Results: We included 111 patients (table 1), the mean age was 51.9 years, 92.3% were women, disease duration 8.7 $\pm$ 8.8 years. QTF-Plus was positive in 46 (44.6%) patients. TST was positive in 31 (27.9%) patients. Agreement between tests was 73.7% ($\kappa=0.45$, $p<0.001$). The majority of patients were using conventional DMARDs (86.7%), none of the patients were using biologic DMARDs. In the linear-to-linear association analysis, there was a trend towards TST negative result with the use of ≥ 2 DMARDs ($p=0.049$ for trend) (figure 1). In the logistic regression model we found a significant relationship between a positive TST active TB exposure (OR 8.5, CI 95% 1.4-51.7; $p=0.01$) and an inverse relationship between the positive TST and antimalarials (OR 0.11, CI 95% 0.001-0.8), none of the variables interfered with QTF-Plus results.

Table 1. Demographic characteristics of RA patients and TST and QTF-Plus comparative analysis.

	N=111	TST positive n=31/103*	QTF-Plus Positive n=46/103*
Age, median	51.9(18-87)	50.4(29-76)	54.4(18-87)
Female, %	105(94.6)	26(83.9)	43(93.5)†
BCG vaccine, %	97(87.6)	28(90.3)	40(87)
Active TB exposure, %	10(9)	5(16.1)	5(10.9)†
Seropositive, %	92(82.9)	25(80.6)	40(87)
Mean duration, years, SD	8.7($\pm$ 8.8)	8.4($\pm$ 9.2)	8.7($\pm$ 8.5)
DAS28-PCR, SD	2.46($\pm$ 1.26)	2.30($\pm$ 1.21)	2.47($\pm$ 1.30)
Prednisone use, %	60(54.1)	14(45.2)	22(47.8)
Prednisone, mean dosis, SD	6.8($\pm$ 6.9)	4.6($\pm$ 2.2)	5.3($\pm$ 3.1)
DMARDs monotherapy, %	42(37.8)	15(48.4)	19(41.3)
DMARDs double therapy, %	38(34.2)	9(29.9)	12(26.1)
DMARDs triple therapy, %	17(15.3)	2(6.5)	8(17.4)†
Methotrexate, %	85(76.6)	14(45)	18(39.1)
Leflunomide, %	32(28.8)	6(19.4)	9(19.6)
Sulfasalazine, %	24(21.6)	7(22.4)	12(26.1)
Antimalarials, %	28(25.2)	6(2.5)	9(19.6)†

*8 subjects with indeterminate QTF-Plus were excluded from this analysis † $p<0.05$. These variables were included in the logistic regression.

Figure 2. Trend analysis of QTF-Plus (a) and the TST (b) results, based on DMARDs use.

Conclusion: The LTBI prevalence in RA patients in our study is similar to countries with a high TB burden. We recommend considering RA patients as a high-risk population for LTBI. An intermediate agreement between TST and QTF-Plus was found. The use of antimalarials and ≥ 2 DMARDs influence the TST reactivity, none of the variables altered the QTF-Plus results. Based on the results, we recommend the QuantiFERON Gold Plus over TST for the LTBI screening in RA patients.

REFERENCES:

- [1] Sester M, et al. Am J Respir Crit Care Med. 2014;190(10):1168–76.
- [2] Pérez-Barbosa L, et al. Rheumatol Int. 2015;35(9):1555–9.
- [3] Takasaki J, et al. J Infect Chemother. 2018;24(3):188–92.

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FRI0034

A LATIN-AMERICAN PREVENTIVE CARDIO-RHEUMA CLINIC: A CASE-CONTROL STUDY

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Background: It has been described an increased prevalence of cardiovascular diseases (CVD) in rheumatoid arthritis (RA) patients. When compared with the general population, CVD mortality is 50% higher in RA (1). It is reported a 35.3% prevalence of CVD in Latin-American population with RA (2). Cardio-rheuma (CR) clinics were designed to enhance detection, prevention and treatment of CVD in patients with rheumatic conditions. Our clinic located in the University Hospital in Monterrey Mexico, is the first and only established in Latin-America since 2014.

Objectives: To describe the characteristics of patients with RA attending to a Latin-American CR clinic and compare the findings by carotid ultrasound (US) and echocardiography to controls.

Methods: Cross-sectional, observational, comparative study. RA patients aged 40 to 75 years that fulfilled the 2010 EULAR criteria and matched controls were included. Patients with prior atherosclerotic CVD and overlap syndromes were excluded. Clinical history, blood samples, physical exam, carotid US and echocardiography were performed. Carotid plaque (CP) was defined as a focal narrowing ≥ 0.5 mm of the surrounding lumen or a carotid intima media thickness (cIMT) ≥ 1.2 mm, and increased cIMT was defined as ≥ 0.9 mm. Transthoracic echocardiogram was performed and reviewed by 2 board-certified cardiologists. Differences were solved by consensus. Categorical variables are expressed as total number (%), and numerical variables as median (q25-q75). Chi square and Mann-Whitney U-test were used to compare groups and considered significant if $p<0.05$.

Results: A total of 336 RA patients and 144 controls were included (Table 1). Table 2 summarizes echocardiographic and carotid US findings; ejection fraction was higher in controls than RA patients, prevalence of bilateral CP and increased cIMT was significantly higher in RA patients.