Objectives: To objectively evaluate the RA hand's speed of the fine movements, through the HTS and to compared with a group of age and sex matched healthy controls. To verify the correspondence with the HAQ, DAS28, GS.

Methods: 55 consecutive RA patients (pts) (6 males, age 61 ± 16 years, mean duration of disease 12 ± 8 years), classified according to 2010 ACR/EULAR criteria⁶, and 50 matched healthy controls (HCs) were enrolled. After consent, all participants undergone HTS test that recognizes the touches between the finger tips during the opposition movements of the hands in standard sequences of movements, after dressed the glove. A multiple finger evaluation (MFE) and a single finger evaluation (SFE) were performed using a dedicated software that provided the physician the following quantitative parameters: Touch Duration (TD), Inter Tapping Interval (ITI) and Movement Rate (MR). Average time for hand 2 minutes. RA pts compiled the HAQ, performed the GS and a DAS28cpr was performed.

The student's t-test was used to compare the glove's parameters between the groups whereas the analysis of variance (ANOVA) was utilized to verify potential differences between the populations. In order to evaluate the single correlations, the *r* and *p* values of Pearson were employed.

Results: For MFE, glove parameters TD and ITI were significantly higher in RA pts than HCs, whereas; MR was significantly lower in RA pts compared to HCs (all *p* < 0.001).

For SFE non-affected fingers (not swollen and not tender) of RA pts performed better than a clinically affected fingers, but in any case significantly worse than average HCs fingers (*p* < 0.001).

There is a statistically significant correlation between the GS and MR (*r* = 0.39 *p* = 0.003) and TD (*r* = -0.33 *p* = 0.015).

TD, ITI e MR of RA pts showed a significant correlation with the total score of the HAQ (*r* = 0.56, *r* = 0.39, *r* = -0.56, all *p* < 0.001;). DAS28, considered as a continuous variable, proved to be significantly correlated with the TD (*r* = 0.36, *p* = 0.009). When the RA patients were grouped according to the disease activity by DAS28cpr⁷, there was an increase of one third of the TD's logarithm for each increase in the activity class (linear regression with ordinal predictors, beta = 0.33; 95%CI 0.03, 0.63, *p* < 0.0297). Finally, even RA pts in remission showed a TD significantly higher compared with HCs (*p* = 0.034).

Conclusion: The RAGLOVE is shown as a new safe and fast tool to evaluate a new objective parameter in the hand's functionality: the speed of finger movements. In RA pts, an inversely proportional correlation emerges between the speed of movement and disease activity.

The significant correlation found with HAQ, highlights the loss of motility of the hands as one of the main determinant of disability. The RAGLOVE is now tested in RA patients undergoing treatment.

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POS0584

ULTRASONOGRAPHY OF THE MEDIAN NERVE IN PATIENTS WITH RHEUMATOID ARTHRITIS UNDER SUSPICION OF CARPAL TUNNEL SYNDROME

S. Tsiami¹, E. Ntasiou², C. Krogias², R. Gold², J. Braun¹, M. Sarholz³, X. Baraliakos¹. ¹Ruhr-University Bochum, Rheumazentrum Ruhrgebiet, Herne, Germany; ²Ruhr-University Bochum, St. Josef-Hospital, Bochum, Germany; ³St. Marien-Hospital Vreden, Klinik fuer Rheumatologie, Vreden, Germany

Background: Carpal tunnel syndrome (CTS) is the most common nerve compression syndrome and a common extra-articular manifestation of rheumatoid arthritis (RA). Different causes of CTS are known, among them inflammatory and non-inflammatory pathologies. Electroneurography (ENG) of the median nerve, the method of choice to diagnose CTS, measures impairment of nerve conduction velocity without explaining its underlying cause. However, because the electrical stimulation is often not well tolerated, ENG results may come out inconclusive. Using greyscale ultrasonography (GS-US) provides anatomic information including a structural representation of the carpal tunnel.

Objectives: To investigate the performance of nerve GS-US in the diagnosis of CTS in patients with RA.

Methods: Consecutive patients with active RA under suspicion of CTS presenting to a large rheumatologic center were included. Both hands were examined by an experienced neurologist including ENG and a GS-US (ML linear probe with 6-15 Hz) of the median nerve. An established grading system for ENG (1), and an established system for GS-US based on cut-offs for the nerve cross sectional area (CSA) [mild: 0, 11-0, 13cm², moderate: 0, 14-0, 15cm², severe: > 0, 15cm² CTS

(2)] were used. In addition, the Boston Carpal Tunnel Syndrome Questionnaire (BCTSQ) was used to assess CTS symptoms (3).

Results: Both hands of 58 patients with active RA (n=116) and clinical suspicion of CTS (in 38 cases bilaterally) were included. After clinical examination, CTS was suspicious in 96 hands (82.8%), and 59 of all hands had a final diagnosis of CTS (50.9%). Of the latter, 43 hands (72.9%) had a positive ENG and 16 (27.1%) a positive GS-US finding only, while 30 hands (50.8%) were positive in both examinations.

Figure 1. BCTSQ scores in patients with diagnosis of CTS and absence or presence of RA-related tenosynovial hypertrophy

There was a good correlation of the cross-sectional area (CSA) as well as the CSA-ratio to the ENG findings: the larger the CSA, the more severe was the CTS as assessed by ENG (Spearman's rho=0.554; *p* < 0.001). The more severe the GS-US findings of CTS were, the more definite were the distal motor latency (Spearman's rho=0.554; *p* < 0.001) and sensible nerve conduction velocity of the median nerve (Spearman's rho=-0.541; *p* < 0.001).

In the 46 hands positive in GS-US, tenosynovial hypertrophy of the flexor tendons was detected in 19 hands (41.3%), 7 of which (36.8%) also showed an additional cystic mass. In these 19 patients, clinical complains were more severe present than in patients with non-inflammatory CTS, as assessed by the BCTSQ with a total score of 68.8 ± 13.4 vs. 59.3 ± 13.7 , respectively (*p* = 0.007).

Conclusion: In patients with active RA and clinical complains of CTS, ultrasound examinations provide additional information about inflammation which is helpful for a diagnosis of CTS. Thus, ENG and nerve GS-US should be used complementary for a diagnostic workup of CTS in RA patients with a suspicion of CTS. PowerDoppler may further improve the diagnostic performance of GS-US.

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POS0585

ORAL STATUS IN PATIENTS WITH RHEUMATOID ARTHRITIS

A. Ben Salem¹, M. Brahmi¹, H. Hachfi¹, R. Sarraj¹, S. Abdellatif¹, R. Ben Tekaya¹, C. Baccouche², Y. Mohamed¹. ¹Tahar Sfar Hospital, Rheumatology, Mahdia, Tunisia; ²Tahar Sfar Hospital, Dentistry, Mahdia, Tunisia

Background: Rheumatoid arthritis (RA) is a systemic auto immune inflammatory disorder, which primarily affects the synovial joints, but it may have an impact on oral health.

Objectives: The present study aimed to describe oral manifestations in patients with Rheumatoid arthritis (RA).

Methods: A cross sectional study including RApatients, which consulted or were hospitalized in Rheumatology department in Tahar Sfar Hospital of Mahdia Tunisia, during a period of 10 months. The diagnosis of RA was based on ACR/EULAR 2010 criteria. Oral and periodontal examination was practiced by a trained dentist in the same hospital. Oral hygiene, teeth status (missing teeth) and paradental parameters (bleeding index of Loe and Silness (IG), plaque indexed O'Leary (IP) were determined for each patient, to assess oral and periodontal diseases in RA.

Results: Our study included 51 patients with an average age of 51.11 years ± 12.4 [21-74years]. 50patients (92.6%of cases) were women and 8patients (14.8%) were diabetic. Only one patient was a smoker. The mean duration of RA was 10.7 years $7.7 \pm$ [10months-35years]. Rheumatoid factor (RF) was positive

in 25 Patients (46.3% of cases). Anti-citrullinated peptide antibody (ACPA) was positive in 32 patients (59.3 %). 41 patients (75.4%) had radiological impairments and 28 (51.9%) had specific deformations of RA. The average disease activity score (DAS28-ES) and (DAS28-CRP) were respectively 4.1 ± 1.5 [1.4-7.3] 3.4 ± 1.5 [1.24-6.71]. Oral examination revealed a poor oral hygiene in 36 patients (69.2% of cases) and 4.7% of our patients (2 cases) were toothless. Xerostomia was observed in 32 patients (80%). Gingivitis was diagnosed in 26 Patients (52%): localized in 6 patients (26.1%) and generalized in 17 patients (73.9%). 21 patients had periodontitis (41.2%). Basing on bleeding index of Loe and Silness (IG), 27 patients (55.1%) had degree 2 and 9 patients (18.8 %) had degree 3. Supragingival plaque and subgingival plaque were detected respectively in 45 patients (90 %) and 47 patients (95.9 %). In our study, tooth loss was significantly correlated with increased age ($p=0.001$) and post-menopausal status ($p=0.03$). Xerostomia, gingivitis and periodontitis were associated with increased age. But no association was found between oral manifestations and DAS28 nor biological inflammatory parameters.

Conclusion: Rheumatoid arthritis is destructive and disabling rheumatism with a great risk to develop dental and periodontal diseases. So, it is important to systematically control oral hygiene of our patients to prevent complications.

Disclosure of Interests: None declared

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POS0586 RHEUMATOID ARTHRITIS IS AN INFLAMMATORY DISEASE WITH A HIGH CARDIOVASCULAR RISK

L. Nacef¹, H. Riahi², Y. Mabrouk¹, H. Ferjani³, K. Maatallah³, E. Labbene⁴, D. Kaffel¹, M. Bouaziz², W. Hamdi¹. ¹Mohamed Taieb Kassab Institute of Orthopedic Surgery and Traumatology, Rheumatology, Manouba, Tunisia; ²Mohamed Taieb Kassab Institute of Orthopedic Surgery and Traumatology, Radiology, Tunis, Tunisia; ³Mohamed Taieb Kassab Institute of Orthopedic Surgery and Traumatology, Rheumatology, Tunis, Tunisia; ⁴Mohamed Taieb Kassab Institute of Orthopedic Surgery and Traumatology, Radiology, Manouba, Tunisia

Background: Hypertension, diabetes, and dyslipidemia are traditional risk factors of cardiac events. Carotid ultrasonography is an available way to detect subclinical atherosclerosis.

Objectives: This study aimed to compare the intima-media thickness in RA patients based on their personal cardiovascular (CV) history of hypertension (hypertension), diabetes, and dyslipidemia.

Methods: The present study is a prospective study conducted on Tunisian RA patients in the rheumatology department of Mohamed Kassab University Hospital (March and December 2020). The characteristics of the patients and those of the disease were collected.

The high-resolution B-mode carotid US measured the IMT, according to American Society of Echocardiography guidelines. The carotid bulb below its bifurcation and the internal and external carotid arteries were evaluated bilaterally with grayscale, spectral, and color Doppler ultrasonography using proprietary software for carotid artery measurements. IMT was measured using the two inner layers of the common carotid artery, and an increased IMT was defined as ≥ 0.9 mm. A Framingham score was calculated to predict the cardiovascular risk at 10-year.

Results: Forty-seven patients were collected, 78.7% of whom were women. The mean age was 52.5 ± 11.06 [32-76]. The rheumatoid factor (RF) was positive in 57.8% of cases, and anti-citrullinated peptide antibodies (ACPA) were positive in 62.2% of cases. RA was erosive in 81.6% of cases. Hypertension (hypertension) was present in 14.9% of patients, diabetes in 12.8% of patients, and dyslipidemia in 12.8% of patients. Nine patients were active smokers. The mean IMT in the left common carotid (LCC) was 0.069 ± 0.015 , in the left internal carotid (LIC) was 0.069 ± 0.015 , in the left external carotid (LEC) was 0.060 ± 0.023 . The mean IMT was 0.068 ± 0.01 in the right common carotid (RCC), 0.062 ± 0.02 in the right internal carotid (RIC), and 0.060 ± 0.016 in the right external carotid (REC). The IMT was significantly higher in the left common carotid (LCC) in patients with hypertension ($p=0.025$). There was no significant difference in the other ultrasound sites (LIC, LEC, RCC, RIC, and REC) according to the presence or absence of hypertension. The IMT was also significantly increased in patients with diabetes at LCC ($p=0.017$) and RIC ($p=0.025$). There was no significant difference in the IMT at different ultrasound sites between patients with and without dyslipidemia.

Conclusion: Hypertension was significantly associated with the increase in IMT at the LCC level in RA patients. Diabetes had an impact on IMT in LCC and RIC. However, dyslipidemia did not affect the IMT at the different ultrasound sites.

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POS0587 EFFECT OF RHEUMATOID ARTHRITIS TREATMENTS ON THE INTIMA-MEDIA THICKNESS OF SUPRA-AORTIC TRUNKS AND ON CARDIOVASCULAR RISK

L. Nacef¹, H. Ferjani², K. Maatallah¹, Y. Mabrouk², H. Riahi³, E. Labbene⁴, D. Kaffel², W. Hamdi¹, M. Bouaziz³. ¹Mohamed Taieb Kassab Institute of Orthopedic Surgery and Traumatology, Rheumatology, Tunis, Tunisia; ²Mohamed Taieb Kassab Institute of Orthopedic Surgery and Traumatology, Rheumatology, Manouba, Tunisia; ³Mohamed Taieb Kassab Institute of Orthopedic Surgery and Traumatology, Radiology, Tunis, Tunisia; ⁴Mohamed Taieb Kassab Institute of Orthopedic Surgery and Traumatology, Radiology, Manouba, Tunisia

Background: Patients with rheumatoid arthritis (RA) are exposed to a multifactorial cardiovascular risk: chronic inflammation, endogenous and exogenous factors, and treatment.

Objectives: The aim of this study was to investigate the impact of RA treatments on cardiovascular risk and the influence of supra aortic trunks.

Methods: This is a prospective study conducted on RA patients followed-up between March and December 2020 at the rheumatology department of the Mohamed Kassab Institute of Orthopedics and Traumatology. Socio-demographic data of patients and characteristics of the disease were collected. The disease activity was evaluated by the Disease Activity Score 28. Prescribed treatments were specified. Ultrasonography of the supra aortic trunks was performed by measuring, in centimeters, the intima-media thickness (IMT) at the level of the left (LCC) and right (RCC) common carotid arteries, the left (LIC) and right (RIC) internal carotid arteries and the left (LEC) and right (REC) internal carotid arteries.

Results: Of the 47 patients surveyed, 78.7% were female. The mean age was 52.5 ± 11.06 [32-76]. The average RA progressed from 86.25 ± 63 [5-288] and was erosive in 81.6% of cases. The rheumatoid factor (RF) was positive in 57.8% of patients, and citrullinated anti-peptide antibodies (ACPA) were present in 62.2%. The treatments taken were: Methotrexate (MTX) (54.5%), Sulfasalazine (SLZ) (1.8%), Leflunomide (LFN) (3.6%), a combination of cs-DMARDs (5.5%), and biotripart (10.9%). The prescribed biotripartes were: Etanercept (3.6%), Adalimumab (1.8%), Certolizumab (1.8%), Infliximab (3.6%). Corticosteroids (CT) were prescribed in 38.2% of patients, non-steroidal anti-inflammatory drugs (NSAIDs) (3.6%), and analgesics (41.8%).

CT had a protective effect on IMT in LIC ($p=0.031$) and RIC ($p=0.016$). MTX had a significant protective effect on IMT in RIC ($p=0.002$) and LEC ($p=0.033$).

SLZ was associated with an increase in IMT at the RIC level ($p=0.05$). There was no association between NSAID use and IMT. MTX and CT were significantly associated with a decrease in SCORE ($p=0.02$; $p=0.05$, respectively). There was a non-significant association between SLZ or LFN and decreased SCORE ($p=0.140$, $p=0.970$).

Conclusion: In our series, patients taking MTX and CT had a lower IMT than those not taking these drugs. SLZ was associated with an increase in IMT. NSAIDs did not affect IMT in our study.

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POS0588 USUAL INTERSTITIAL PNEUMONIA DURING RHEUMATOID ARTHRITIS: PREVALENCE AND ASSOCIATED FACTORS

C. Daldou¹, N. El Amri¹, A. Guiga², S. Laataoui¹, K. Baccouche¹, H. Zegaloui¹, E. Bouajina¹. ¹Farhat Hached Hospital, Rheumatology, Sousse, Tunisia; ²Farhat Hached Hospital, Internal Medicine, Sousse, Tunisia

Background: Lung involvement is the second common extraarticular manifestation of rheumatoid arthritis (RA). Its prevalence varies widely according to the screening tool used and it could reach up to 80% of patients. This lung disease can affect all the lung compartments. However, interstitial lung disease during RA needs a particular attention due to the increased morbidity and usual interstitial pneumonia (UIP) pattern especially due to its higher rate of mortality.