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Background: Rheumatoid arthritis (RA) is chronic inflammatory rheumatism characterized by an independent cardiovascular (CV) risk. The screening of carotid intima-media thickness (IMT) in the common carotid artery appears to be a marker of atherosclerosis and is used as a specific tool for CV risk assessment.

Objectives: The main of this study was to determine the most associated US sites with CV risk in RA.

Methods: The present study is a prospective study conducted on Tunisian RA patients in rheumatology department of Mohamed Kassab University Hospital (March and December 2020). The characteristics of the patients and those of the disease were collected. The measurement of cIMT was done using high-resolution B-mode carotid US with a Philips machine with the patient in supine position, according to American Society of Echocardiography guidelines. The carotid bulb below its bifurcation and the internal and external carotid arteries were evaluated bilaterally with gray scale, spectral and color Doppler ultra-sonography 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. The CV risk at 10 years was calculated by the SCORE index.

Results: Forty-seven patients were collected, of which 78.7% were women. The mean age was 52.5 ± 11.06 years. 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 and diabetes 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 mean SCORE index of CV risk was 2 ± 2.81 [0–11.6]. CV risk was significantly associated with the IMTs for LIC ($p=0.029$; $r=0.374$), LEC ($p=0.04$; $r=0.480$), and REC ($p=0.016$; $r=0.408$). No association was found between the IMT in the LCC ($p=0.361$; $r=0.162$), neither in the RCC ($p=0.438$; $r=0.140$) nor the RIC ($p=0.670$; $r=0.077$).

Conclusion: In our study, IMT is strongly associated with score index, especially in carotid bifurcation. However, IMT measured in common carotid does not reflect a cardiovascular risk at 10-years.

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AB0187

PREVALENCE, RISK FACTORS, AND TREATMENT MODALITIES OF ATLANTOAXIAL DISLOCATION IN RHEUMATOID ARTHRITIS

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Background: Cervical spine involvement is common in patients with rheumatoid arthritis (RA). The most common abnormality is atlantoaxial dislocation (AAD). It may lead to severe neurological symptoms and even death. Currently, there is a lack of consensus on the best approach to treatment.

Objectives: We investigated the prevalence of and risk factors for AAD in patients with RA, as well as its relationship to treatment modalities.

Methods: We conducted a cross-sectional study including 224 patients with RA. All patients fulfilled the 2010 American College of Rheumatology/European League Against Rheumatism RA classification criteria. Radiographs of the cervical spine included lateral views taken in flexion, extension, neutral position of the neck, anteroposterior and odontoid projection view. Patients were divided into two groups: (G1) a group with AAD and (G2) without AAD. We compared clinical, radiological, and laboratory findings between the two groups, as well as the treatments used: Steroid therapy, classic and biologic disease-modifying anti-rheumatic drugs (DMARDs). Structural joint damage was assessed with the Sharp/van der Heijde radiographic method. Functional impairment was assessed using the Health Assessment Questionnaire (HAQ). We used Statistical Package for Social Sciences (SPSS) 22.0 to analyze the results. The level of statistical significance was set at 0.05.

Results: ADD was present in 16% of the cases ($n=36$). Female predominance was noted, with a sex ratio of 0.25 ($p=0.530$). The mean age was 58 ± 12 years, with no significant difference between groups ($p=0.146$). The mean disease duration was significantly higher in G1 (11.5 ± 10.5 years versus 5.9 ± 6.3 , $p=0.004$). A noticeable relationship between AAD and immunopositivity was found: rheumatoid factor (RF) was present in 86.1% of the cases in G1 versus 67.5% in G2 ($p=0.025$). Anti-citrullinated protein antibodies (ACPA) were present in 86.1% of the cases in G1 versus 64.8% in G2 ($p=0.012$). We found a significant difference between AAD and disease activity assessed by DAS28-VS (5.8 ± 1.3 in G1 versus 5.3 ± 1.6 in G2, $p=0.027$). AAD was significantly associated with more structural joint damage: erosions (121.1 ± 60.9 in G1 versus 61.8 ± 56.5 in G2, $p<10^{-3}$), joints space narrowing (77.4 ± 47.4 in G1 versus 38.7 ± 40 in G2, $p<10^{-3}$), Sharp/van der Heijde radiographic score (190.2 ± 103.1 in G1 versus 100.1 ± 90.6 in G2, $p<10^{-3}$). Hip involvement was more frequent in G1 (22.2% versus 9.4% in G2, $p=0.038$).

HAQ score was higher in G1 (1.8 ± 0.7 versus 1.2 ± 1 , $p=0.002$).

Seventy-five percent of patients in G1 had received methotrexate versus 82.3% in G2 ($p=0.301$). The mean duration of methotrexate therapy was longer in G1 (24.6 ± 23.5 versus 18 ± 24 months, $p=0.015$). G1 patients received a higher mean dose and cumulative dose of methotrexate: 13.2 ± 3.5 g/week versus 11.8 ± 4.4 g/week ($p=0.048$), and 6.5 ± 6.8 versus 4.8 ± 8.5 ($p=0.025$), respectively.

Thirty-five percent of patients in G1 had received corticosteroids versus 25% in G2 ($p=0.217$). Patients in G1 had a significantly longer duration of steroid therapy: 17.8 ± 20.2 versus 13.3 ± 24.3 months ($p=0.22$). The mean dose of corticosteroids was similar between the two groups: 6.9 ± 4.3 mg/day versus 5.7 ± 4.6 mg/day ($p=0.132$). The total cumulative dose was significantly higher in G1: 6.5 ± 6.8 mg/day versus 4.8 ± 8.5 mg/day ($p=0.025$). There was no significant difference in using other DMARDs: Sulfasalazine ($p=0.182$) and leflunomide ($p=0.276$).

No significant difference was observed with patients under biologic DMARDs: 24.1% in G1 versus 17% in G2 ($p=0.725$).

Conclusion: Cervical spine involvement is common in RA and may be asymptomatic. Immunopositive patients seem to have more frequently ADD, as well as those with high disease activity and severe structural joint damage. The treatment modalities do not appear to be affected by AAD; however, patients with ADD seem to have higher cumulative doses of corticosteroids and methotrexate. Given the cross-sectional nature of our study, it is difficult to confirm the connection between the two. Further studies are needed.

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AB0188

DO PATIENT-REPORTED OUTCOMES IN RHEUMATOID ARTHRITIS REFLECT DISEASE ACTIVITY?

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Background: Patient-reported outcomes (PROs) reflect the patient's perspective and are used in rheumatoid arthritis (RA) routine clinical practice. However, PROs may be associated with other aspects of health, such as psychological distress or comorbidities, which leads to situations of discordance with objective RA assessments.

Objectives: The aim of this study was to determine whether PROs were associated with objective assessment of disease activity.

Methods: We conducted a cross-sectional study including patients with RA (ACR/EULAR 2010). Demographic data were collected. The following PROs were assessed: number of nocturnal awakenings, morning stiffness duration, estimation of spontaneous pain and fatigue by Visual Analog Scale (VAS), and global patient assessment (GPA). In addition, patients rated their current satisfaction with their disease state according to the Austrian school mark system (PATASAT: 1=excellent, 2=good, 3=average, 4=moderate (fair), 5=unsatisfactory). Disease activity was assessed using the 28-joint disease activity score with erythrocyte sedimentation rate (DAS28 ESR) and C reactive protein (DAS28 CRP). We used Cohen's kappa (κ) to determine the agreement between PATASAT and DAS28 ESR. The κ result was interpreted as follows: values ≤ 0 as indicating no agreement and 0.01–0.20 as none to slight, 0.21–0.40 as fair, 0.41–0.60 as moderate, 0.61–0.80 as substantial, and 0.81–1.00 as almost perfect agreement. A p-value inferior to 0.05 was considered significant.

Results: We included 54 patients (45 women and nine men) with a mean age of 55 ± 11 years old [23–69]. The mean disease duration was 9.9 ± 5.9 years [0–20]. The mean number of nocturnal awakenings was 1.1 [0–4] and the mean morning stiffness duration was 25.1 minutes [0–120]. The mean GPA was 5.3 ± 2.2 cm [0–10]. The mean pain VAS was 5.4 ± 2.2 cm [0–10] and the mean fatigue VAS was 4 ± 2.5 cm [0–8]. None of the patients described his disease state as 'excellent'. It was considered 'good' in 23.1% of cases, 'average' in 36.5% of cases, and 'moderate' to 'unsatisfactory' in 40.4% of cases.

The mean ESR and CRP were 46.3 ± 29.3 mm [5-120] and 15.8 mg/l [0.6-100] respectively. The mean DAS28 ESR was 4.68 ± 1.35 [1.50-7.16] and the mean DAS28 CRP was 3.9 ± 1.1 [1.02-6.05].

A significant positive correlation was noted between both DAS28 ESR and DAS28 CRP and, number of nocturnal awakenings ($r=0.385$, $p=0.013$ and $r=0.448$, $p=0.002$), morning stiffness duration ($r=0.495$, $p=0.001$ and $r=0.617$, $p<0.001$), GPA ($r=0.485$, $p<0.001$ and $r=0.530$, $p<0.001$), and pain VAS ($r=0.594$, $p<0.001$ and $r=0.598$, $p<0.001$). No correlation was found between the two scores and fatigue VAS.

No significant agreement was noted between PATSAT and DAS28 ESR ($\kappa=0.077$, $p=0.478$).

Conclusion: PROs showed moderate to strong correlation with disease activity scores. The timely and effective use of PROs could encourage physicians to focus more on the impact of RA on patients and how patients are feeling. This in turn would facilitate shared decision making between patients and physicians.

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AB0189

LIPOPROTEIN ABNORMALITIES IN RHEUMATOID ARTHRITIS PATIENTS

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Background: The lipid paradox is termed the decreased cholesterol level in rheumatoid arthritis (RA). Nevertheless, the apolipoprotein levels are usually higher than a healthy person and are predictors of cardiovascular events.

Objectives: We aimed to describe lipid abnormalities in RA patients and to look for predictor factors of these changes.

Methods: The prospective study was carried out on patients with RA who met the 2010 American College of Rheumatology (ACR)/European League Against Rheumatism (EULAR) classification criteria. These patients were followed in the rheumatology department of the Kassab Institute.

We collected the socio-demographic data, biological and immunological parameters.

The lipid assessment included: a measurement of total cholesterol (TC), HDL, LDL, and triglycerides (TG). Lipoproteins APOA1 and APOB were measured. All data were collected after patient consent.

Results: Of the 47 patients recruited, 78.7% were female. The mean age was 52.5 ± 11.06 [32-76]. The average RA progressed from 86.25 ± 63 months [5-288] and was erosive in 81.6% of cases. The rheumatoid factor (RF) was positive in 57.8% of patients, and citrullinated antipeptide antibodies (ACPA) were present in 62.2%. Eight patients had a previous CV history.

Mean TC was 4.42 ± 1.3 [1.2-7.58], mean HDL was 1.38 ± 0.73 [0.18-4.10], mean LDL was 2.55 ± 1.16 [0.24-5.54]. The mean TG value was 1.28 ± 0.6 [0.24-5.54]. TC elevation was found in 9.1% of cases, HDL in 21.3% of cases, LDL in 5.5% of cases, and TG in 16.4% of cases. Mean APOB/APOA1 ratio was 0.67 ± 0.18 [0.46-1.11]. LDL elevation was associated to a high DAS28 ($p=0.06$, $r=0.512$). APOA1 was associated to a low DAS28 ($p=0.04$, $r=-0.642$).

The mean value of APO A1 was 1.36 ± 0.21 [0.84-1.81], that of APOB was 0.90 ± 0.22 [0.58-1.40]. APOA1 values were lower in patients with high-level LDL ($p=0.767$). The APOB value was associated with lipid disturbance without significant correlation ($p=0.291$).

Conclusion: Lipid test abnormalities can be found in RA patients outside of any known CV risk factors. APOA1 seems to have a protective effect. Screening and treatment of these abnormalities can prevent CV risk.

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AB0190

LIVER INVOLVEMENT IN RHEUMATOID ARTHRITIS

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Background: Rheumatoid arthritis (RA) can be associated to extra-articular manifestations and comorbidities, including hepatic disturbances. It can be related to an underlying viral, metabolic or immune disease, or to a medical treatment toxicity [1].

Objectives: We aim to study liver involvement in a group of RA patients.

Methods: We performed a cross sectional study in 249 RA patients responding to the ACR/EULAR 2010 criteria for RA diagnosis. Hepatic enzymes, B and C hepatitis viruses screening tests, abdominal ultrasonography, biliary tract MRIs, fibrotests and fibroscans if available were collected and analysed.

Results: Two hundred and forty-nine patients were included with 83.8% of women. The mean age was 59 ± 11.67 years. The mean age at diagnosis was 47 ± 14.9 years with a mean disease evolution of 11 ± 8.83 years.

The mean disease activity (DAS28) was 4,66 with levels ranging from 0.12 to 7.78.

Liver abnormalities were found in 68 patients (27.3%).

Viral disease represented 32.3% of liver abnormalities and was found in 8.8% of the total number of patients. Positive anti-HBc antibodies with negative HBs antigen were found in 8.4% of the patients, no viral reactivation with conventional or biological disease-modifying anti-rheumatic drugs was noted.

Besides, 4 of the 249 patients had positive HCV antibodies tests; one of them had a reactivation of a hepatitis C infection after treatment with leflunomide, one had a chronic C hepatitis with chronic liver disease, one had an old B and C hepatitis infection and the last one had an associated liver nodule for which an exploration was triggered. One patient had post hepatitis C cirrhosis associated with a hepatocellular carcinoma treated with surgery and an association of ledipasvir and sofosbuvir with a negative serology.

Medical treatment toxicity was responsible for 25% of liver abnormalities. Paracetamol caused both hepatic cholestasis and cytolysis in 5 patients, and isolated cholestasis in 2 patients. NSAIDs caused both hepatic cholestasis and cytolysis in 2 patients, and isolated cholestasis in one patient. Methotrexate was responsible for isolated cholestasis in 2 patients, isolated hepatic cytolysis in one patient and both cholestasis and cytolysis in one patient. An interaction between methotrexate and fluconazole caused one case of hepatic cholestasis and cytolysis. Treatment of a latent tuberculosis with isoniazid and rifampicin was responsible for cholestasis in one patient.

Immune hepatic disease was present in 3 patients: 2 patients had a primary biliary cholangitis that manifested with a cholestasis and one patient had an auto-immune hepatitis that manifested with cytolysis and cholestasis.

The prevalence of hepatic steatosis was of 4.8%, assessed with ultrasonography or microscopic examination of a liver biopsy. Hepatic enzymes test was normal in 2%, showed isolated cholestasis in 2% and both cholestasis and hepatic cytolysis in 0.8% of the patients.

One patient had a secondary hemochromatosis to multiple transfusions for sickle cell anaemia, causing cholestasis and cytolysis.

No aetiology was found for hepatic cholestasis and/or cytolysis in 7.2% of patients.

Conclusion: Liver involvement in RA is common and has different aspects. A careful monitoring of liver enzymes tests is crucial to detect hepatic disease and prevent its evolution to a chronic liver disease and cirrhosis. On the other hand, screening for viral hepatitis B and C is necessary to prevent an aggravation of a chronic infection and a reactivation of a latent one [2].

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AB0191

ON WHICH FACTOR TO ACT TO REDUCE CARDIOVASCULAR RISK IN PATIENTS WITH RHEUMATOID ARTHRITIS?

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Background: Patients with rheumatoid arthritis (RA) are at higher cardiovascular risk (CVR) than the general population due to chronic inflammation. Several factors, both modifiable and non-modifiable, can increase this risk. Intima-media thickness (IMT) was considered as a marker for atherosclerosis.

Objectives: This study aimed to identify predictor factors of increasing IMT.

Methods: The prospective study was carried out on patients with RA who met the 2010 American College of Rheumatology (ACR)/European League Against Rheumatism (EULAR) classification criteria. These patients were followed in the