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AB0217

IMPACT OF THE BODY-MASS-INDEX ON DISEASE ACTIVITY, FUNCTIONAL ABILITY AND QUALITY OF LIFE IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Objectives: This study aims to assess differences in disease activity, functional ability and quality of life among underweight, normal weight, overweight and obese patients with rheumatoid arthritis (RA).

Methods: 715 patients with RA (609 women and 106 men) were included in this study. According to their Body-Mass-Index, all patients were divided into four subgroups: underweight (BMI <18,5), normal weight (BMI between 18,5 and 24,9), overweight (BMI between 25,0 and 29,9) and obesitas (BMI ≥ 30,0). Mean values of DAS₂₈, CDAI and SDAI (measures of disease activity), HAQ-disability index (measure of functional ability) and RAQoL index (measure of quality of life) were compared among four subgroups of patients.

Results: 28 (3,9%) RA patients were underweight, 310 (43,4%) had normal weight, 268 (37,5%) were overweight, whilst 109 (15,2%) patients were obese. Among these subgroups, no difference in mean age, disease duration, percentage of seropositive patients, and patients treated with glucocorticoids, csDMARDs or biologics, was noticed. There were no statistically significant differences in mean values of DAS₂₈, CDAI and SDAI in four subgroups of patients. However, mean value of the HAQ disability index was significantly higher ($p < 0.05$) in underweight (1.32) and obese patients (1.27), compared to normal (0.87) and overweight patients (1.08). The mean value of the RAQoL-Index was also somewhat higher in underweight and obese patients (8.8 and 8.1, respectively) than patients who are overweight or have normal weight (7.0 and 6.5, respectively), but the difference was not statistically significant.

Conclusion: Underweight and obese RA patients have worse physical function than normal and overweight patients. However, worse disability can not be explained by higher disease activity.

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AB0218

FUNCTIONAL DISABILITY AND PAIN BUT NOT DISEASE ACTIVITY ARE ASSOCIATED WITH POOR HEALTH-RELATED QUALITY OF LIFE IN A COHORT OF RHEUMATOID ARTHRITIS PATIENTS

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Background: Rheumatoid Arthritis (RA) is a systemic autoimmune disease that presents with joint pain and inflammation leading to significant disability and poor health-related quality of life (HRQoL) (1,2). Optimizing long-term HRQoL is the primary goal of disease management in RA (3).

Objectives: To evaluate HRQoL and identify its influencing clinical and demographic factors in a Portuguese RA population.

Methods: This is a cross-sectional study including consecutive patients fulfilling the ACR/EULAR 2010 and/or ACR 1987 RA classification criteria, followed at a tertiary Rheumatology Department. Sociodemographic and clinical variables were collected. HRQoL was assessed using the EuroQoL 5-Dimensional Descriptive System (EQ-5D) total score (normal range from -0.496 to 1.000, lower values indicating poorer HRQoL). Independent t-test and Pearson's correlation coefficient were performed to evaluate EQ-5D differences between groups and examine its relationships with continuous variables, respectively. Variables with $p < 0.1$ in univariate analysis were included in a stepwise multiple linear regression analysis to evaluate the independent association of variables with the EQ-5D score.

Results: 358 RA patients were included (80.20% female, mean age $\pm$ SD: 63.22 ± 0.66 years old). Mean EQ5D total score $\pm$ SD was 0.48 ± 0.01 . Based on EQ-5D domains, 0.60% reported extreme problems with mobility, 3.40% extreme problems with self-care, 2.50% extreme problems with usual activities, 12.0% extreme pain or discomfort, and 7.30% extreme anxiety or depression symptoms (Fig. 1). There was a significant difference in EQ-5D scores between male ($M=0.55$, $SD=0.24$) and female gender ($M=0.46$, $SD=0.27$); $t(356) = -2.41$, $p=0.016$. EQ-5D was weakly correlated with DAS-28-CRP ($r=-0.32$; $p<0.001$), moderately correlated with patient's global assessment of disease activity ($r=-0.54$; $p<0.001$) and pain-visual analogue scale (pain-VAS) scores ($r=-0.58$; $p<0.001$) and strongly with Health Assessment Questionnaire (HAQ) score ($r=-0.72$; $p<0.001$). After multivariate analysis, HAQ-score ($\beta=-0.57$ [95% CI -0.24 to -0.17]; $p<0.001$) and pain-VAS ($\beta=-0.25$ [95% CI -0.003 to -0.002]; $p<0.001$) remained as independent predictors of EQ-5D ($R^2=0.56$, $p<0.001$).

Conclusion: Greater functional impairment and pain are associated with poor HRQoL in RA patients, and thus special attention must be given to treatment strategies providing the best patient-centred outcomes.

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Fig. 1. Distribution of answers according to each EQ-5D domain.

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AB0219

PREDICTIVE FACTORS FOR THE PROGRESSION OF EARLY INFLAMMATORY ARTHRITIS TO RHEUMATOID ARTHRITIS

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Objectives: To identify factors predicting the progression of early inflammatory arthritis (EIA) to rheumatoid arthritis (RA)

Methods: This was a prospective longitudinal study of inflammatory rheumatism that could not be classified according to defined rheumatism criteria. Demographic, biological, immunological and radiographic data were collected at the time of inclusion in the study. Disease activity as determined by the Disease Activity Score 28-CRP (DAS28-CRP: 4 variables), functional handicap as calculated by Health Assessment Score (HAQ), and bone and joint damage as evaluated by Sharp-Van der Heijde (SVDH) score. ultrasound joint imaging were evaluated at the beginning of the study and then 1 year later. Logistic regression was performed to identify predictive factors for progression to RA.

Results: One hundred seventy two patients were included (24 men, 148 women), with an mean age 43.13 ± 14.07 years and an mean time to diagnosis 10.24 ± 6.84 months. The mean ESR was 46.81 ± 31.16 mm/1st hour, and the mean CRP level was 22.84 ± 39.8 mg/l. Rheumatoid factors (RFs) and anti-citrullinated protein antibodies (ACPAs) were present in 48.8% and 53% of patients, respectively. The erosion, joint space narrowing, and total SVDH scores were 3.38 ± 3.48 , 5.08 ± 3.32 , and 5.95 ± 4.94 , respectively. One hundred sixty one patients were followed up for 12 months. Multivariate regression analysis showed that a DAS28-CRP level > 5.2 (OR=28.6; CI95% 8.7-94.5), an RF level > 60 IU/L (OR=11.2; CI95% 4.3-87.5), and an ACPA

level >60 IU/L (OR=5.4; CI95% 1.9-15.3) were predictive for progression to RA.

Conclusion: Our study suggests that clinical evaluation of EIA by DAS28-CRP from the time of diagnosis, as well as evaluating the presence of RA auto-antibodies, can predict progression to RA.

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AB0220 TENOSYNOVITIS AS THE PRESENTING FEATURE OF FLARE IN RHEUMATOID ARTHRITIS

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Background: The importance and relevance of tenosynovitis (TS) has long been recognised in rheumatoid arthritis (RA), but it is not usually considered in disease activity assessments. The significance of TS in early arthritis (EA) has also been recognised and, using ultrasound (US) it has recently been identified as a precursor to RA¹. The ongoing BIO-FLARE (BIOlogical Factors that Limit sustAined Remission in rhEumatoid arthritis) observational study aims to investigate the pathogenesis of flare in RA. Patients with RA in remission stop their disease modifying anti-rheumatic drug medication (DMARDs: methotrexate, sulfasalazine and/or hydroxychloroquine) and are closely followed for 6 months, in anticipation that approximately 50% will experience a flare. We investigated whether TS occurrence was a frequent herald of flare in this cohort.

Objectives: To review the case notes of 49 patients in the BIO-FLARE study with confirmed flare to date, seeking evidence of US tenosynovitis prior to or concurrent with flare.

Methods: Patients in the study who are deemed to be in remission based on a disease activity score (DAS28-CRP) < 2.4 stop their DMARD medication and attend regularly for review over 6 months, with provision for ad-hoc appointments if symptoms return between visits. Patients are defined as having a flare if their DAS28-CRP ≥ 3.2 at any point or two consecutive DAS28-CRP ≥ 2.4. Targeted US assessment occurs at baseline only for patients that consent to an optional baseline ultrasound-guided synovial biopsy. If a flare occurs, US of symptomatic joints is undertaken, to assess suitability for a synovial biopsy. Following this, the patient receives a steroid injection and restarts their DMARD medication.

Results: To January 2020, 120 patients had been recruited into the study and 49 experienced a flare. Seven patients had a flare predominantly or initially characterised by TS or paratenonitis, the results of which are summarised in Table 1.

Table 1. Tenosynovitis in BIO-FLARE

	DMARD stopped	Time to TS, weeks	Tendon involved	Time to flare, weeks	Joints involved
1	Methotrexate, sulfasalazine, hydroxychloroquine	12	Extensor carpi ulnaris	12	Shoulders and PIPJs, no synovitis suitable to biopsy
2	Methotrexate	7	Bilateral extensor carpi ulnaris	7	Shoulders, wrists, knees, PIPJ with no accompanying synovitis
3	Methotrexate	5	Tibialis posterior	5	No joints flared, no synovitis but treated as a flare due to severity of TS
4	Methotrexate	8	Tibialis posterior – attributed to increase in patient activity	22	MCPJ, PIPJs, mid tarsal and MTPJ
5	Methotrexate and hydroxychloroquine	7	Extensor pollicis longus	8	Polyarticular flare
6	Methotrexate and hydroxychloroquine	2	Extensor carpi ulnaris – attributed to overuse	6	Polyarticular flare
7	Methotrexate	12	Extensor paratenonitis at PIPJ4 & 5	12	MCPJ synovitis

Conclusion: Although highlighted as a precursor of RA in early arthritis¹, the occurrence of TS in the context of flare – and the prodrome heralding this – has not been studied. Our findings show that TS in early flare is reminiscent of the features sometimes seen in EA or clinically suspect arthralgia². Further data are required to determine the role of periarticular inflammatory phenomena, such as TS, as risk factors for joint synovitis. Our study did not entail formal US assessments, therefore the rate of TS in this population may be under estimated. Careful study of RA patients in early phase of disease flare may pose an opportunity to characterise the nature and chronology of this association in greater depth.

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AB0221 ULTRASOUND ASSESSMENT OF INFLAMMATORY ARTHRALGIA: PREDICTORS FOR CHRONIC ARTHRITIS DEVELOPMENT

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Background: Inflammatory arthralgia (IA) onset is a common rheumatology consultation. Identifying predictors for chronic arthritis (CA) development by ultrasonography (US) may provide early diagnosis and treatment in order to prevent progression of the disease.

Objectives: Establishing US findings that can be related to CA development in patients with inflammatory arthralgia without arthritis. Assess the link among US, clinical and biochemical parameters.

Methods: A prospective longitudinal study of a cohort of patients with IA. Patients with less than one year of AI evolution and involvement of at least one small joint from hands or feet were included. Patients with arthritis, osteoarthritis, fibromyalgia and those treated with DMARDs or steroids were excluded. We made a 6-monthly evaluation for 2 years and recorded the CA development during that period. The number of painful joints (PJC) and biochemical data (CRP, ESR) were assessed at the first visit. A blind US exploration was made using a MyLabTwice (Esaote) equipment with a 5-13MHz probe for greyscale (GS) and Power Doppler (PD), examining 36 joints (radio-carpi, MCP, IPP, 2nd-5th MTP, elbows, shoulders and knees) and 14 tendon compartments (2nd, 4th and 6th wrist extensors, 3rd and 4th finger flexors and posterior tibial and fibularis tendons), giving an overall score of GS, PD (0-3) and number of erosions by rating the presence of synovitis on each location.

We performed a descriptive analysis based on the frequencies of qualitative variables and mean±SD/median (IQR) of quantitative variables, comparing the characteristics between patients with and without CA progression by Chi-Square and Mann-Whitney U tests. Also, the possible relationship of those variables and the disease progression was assessed by a univariate binary logistic regression analysis.

We designed a reduced US examination (RUE) selecting the most affected locations and those with greatest differences between groups in the statistical analysis.

Results: Of the 49 patients included, 21 (42.9%) progressed to CA. 87% were females and 71.4% non-smokers with a mean age of 44 ± 12 years. The median of PJC was 4 (1-9). RF and/or CCPA were positive in 18.4% and 34.7% had high CRP/ESR. The suggested RUE included carpi, 2nd-4th MCP, 2nd-3rd IPP, 2nd and 5th MTP, 4th and 6th wrist extensors and fibularis tendons. Scores and comparative analysis within subgroups are listed in Table 1. The RUE score was significantly greater in both GS (OR 1.4, CI 95%) and PD (OR 1.3, CI 95%) on patients that progressed to CA.