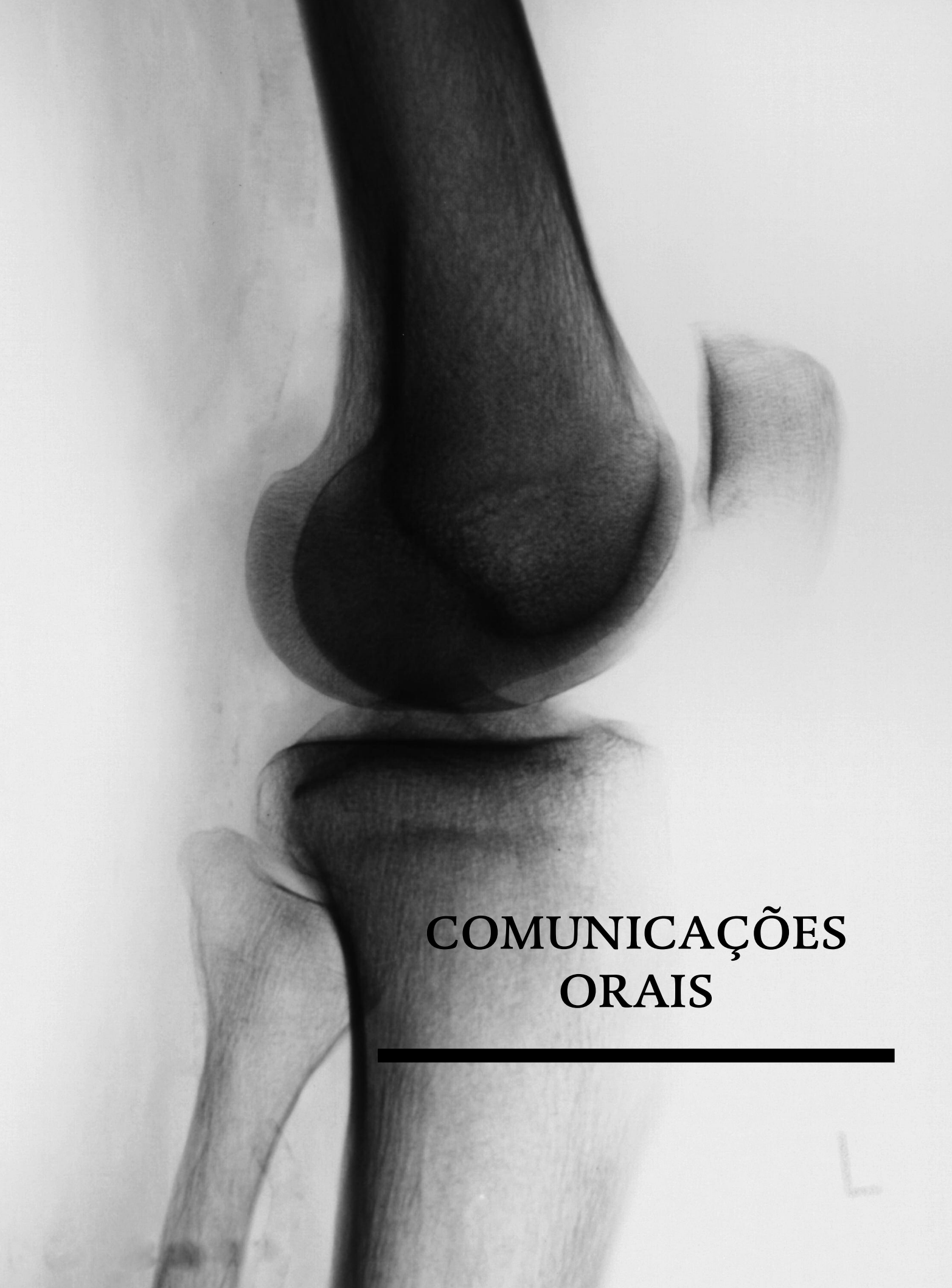

COMUNICAÇÕES ORAIS

Comunicações orais

ACTA REUMATOL PORT. 2014:39:41-55 (SUP)

CO1 – UPPER ARM CIRCUMFERENCE MEASUREMENT IMPROVES SCREENING FOR LOW BONE MINERAL DENSITY IN MEN

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Background: Fragility hip fractures are associated with increased mortality, especially in men[1]. As bone mineral density (BMD) determination is the single most important determinant of bone strength, and mass dual--energy X-ray absorptiometry (DXA) testing is not cost--effective, several clinical decision rules have been developed to identify individuals with higher probability of low BMD. However, their validation across different populations has led to heterogeneity in the proposed cut-offs, making its applicability unclear and calling for calibration. Finally, when similar validity can be ensured, the simpler the clinical decision tool the more likely it is to be applied in clinical practice.
Objectives: To develop and validate a simple clinical screening tool (EPIPOST) able to identify men with higher probability of having low bone mineral density (BMD) who may benefit from DXA testing and to compare its discriminatory ability with two other osteoporosis screening tools in men (OST and MORES), after calibration for our population.
Methods: As part of EPIPorto population-based study among adults, 147 men aged between 40 and 65 years were assessed. Age, height, weight, body mass index and several body circumferences were recorded by trained observers. DXA whole-body scans were performed for BMD assessment. For the calibration of OST and MORES, new regression parameters were estimated for each risk factor included accounting for their prevalence and also for the prevalence of low BMD in our population. For EPIPOST development, the different anthropometric variables were tested using logistic regression models to predict low BMD. EPIPOST validation was done by the leave-one-out cross-validation method. The overall fit and discriminatory capacity of the different models were assessed by direct comparison of the observed and expected prevalences of low BMD by quartiles of each score, Hosmer-Lemeshow "goodness-of-fit" test and area under the receiver operating characteristic (ROC) curve. Finally, likelihood ratios (LR) were calculated to select the ideal cut-off for each model.
Results: Calibration maintained the discriminatory capacity of OST and MORES (AUC of 0.73 and 0.75, respectively) and improved the fit. The EPIPOST included only upper arm circumference and showed better discriminatory capacity (AUC 0.76). For predicting low BMD, OST≤2 had a sensitivity of 100% and a specificity of 8.2%; MORES>-2 had a sensitivity of 93.9% and a specificity of 30.6%; EPIPOST>-2 had a sensitivity of 98.0% and a specificity of 18.6%. The LR analysis showed that EPIPOST had higher discriminative ability across different risk levels (LR range of 0.1--18.4, compared to 0.0-2.4 with OST and 0.2-2.8 with MORES).
Conclusion: Calibration of OST and MORES improved the fitting of both models to our population data and maintained their discriminatory ability to identify men with low BMD. The newly developed tool, EPIPOST, is easier to execute and performed similarly to OST and MORES in terms of overall accuracy while showing a wider range of discriminatory ability.

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CO2 – DAMAGE PREDICTORS IN PATIENTS FROM THE PORTUGUESE LUPUS REGISTRY

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Introduction: Systemic lupus erythematosus (SLE) survival rate has improved dramatically. However, many patients develop irreversible organ consequences during the course of disease. The SLICC/ACR damage index (SDI) measures cumulative damage and is associated with a higher morbidity and mortality rate.
Aim: Characterization of damage and identification of damage predictors
Patients and Methods: SLE patients from the Portuguese register Reuma.pt/LES and available SDI were included. A cross sectional analysis was made upon records of the last visit. Predictor factors for damage, defined as SDI ≥1, were determined by a multivariate logistical regression model.
Results: 1099 patients were studied (439 with SDI ≥1), mean SDI score was 0.74±1.26. Musculoskeletal (24.6%), neuropsychiatric (23.0%) and ocular (16.4%) domains were the most commonly affected. Patients with damage were significantly older, had longer disease duration and later disease onset. Black ethnicity, discoid rash, serositis, renal and neuropsychiatric involvement associated positively with SDI≥1. Hypertension, antiphospholipid syndrome and Sjögren's syndrome were also more prevalent in this group. The use of antimalarials (ever or current) showed a negative association with damage. In multivariate analysis, age, disease duration, renal involvement, discoid rash and positivity of anti-phospholipids were predictors of damage. Gender and SLEDAI score at last visit were not associated with damage.
Conclusions: In this large cohort study, clinical and demographic characteristics were found to be associated with damage. Patients with SDI≥1 have different clinical manifestations, older age and longer disease duration. Our nationwide study provides crucial information on damage in a homogenous South European SLE population.

CO3 – VASCULITE DO SISTEMA NERVOSO CENTRAL NO LES: CASUÍSTICA DA CONSULTA DE LES DOS CHUC

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Introdução: A vasculite do Sistema Nervoso Central (SNC) é uma manifestação potencialmente muito grave mas rara do Lúpus Eritematoso Sistémico (LES).
Objetivo: Análise descritiva da clínica, alterações imagiológicas e analíticas e da resposta à terapêutica dos doentes com vasculite do SNC observados na consulta de LES dos CHUC, desde 2006.
Material e Métodos: Realizou-se revisão de casuística através dos registos na base de dados da consulta de LES do CHUC, incluindo os 279 doentes que cumprem critérios de classificação (ACR 1997) para LES e observados na consulta de LES desde 1 de Janeiro de 2006. Identificaram-se os casos que apresentaram, desde 01 de Janeiro 2006: 1) Clínica consistente com síndromes de lúpus neuropsiquiátrico, de acordo com a nomenclatura proposta pelo ACR e 2) Alterações na RMN cranioencefálica compatíveis com vasculite do SNC. Realizou-se uma análise retrospetiva dos casos identificados, quanto às características clínicas, imagiológicas, analíticas e resposta à terapêutica instituída, através da revisão dos processos clínicos e dos dados registados no sistema informático hospitalar (SIGM).
Resultados: Foram diagnosticados 4 casos de vasculite do SNC (sexo feminino – 100%, etnia caucasiana – 100%, idade – 18-67 anos). O quadro clínico de vasculite do SNC ocorreu 5 a 16 anos após o diagnóstico de LES. A apresentação clínica foi diversificada: Caso 1 - Disfunção cognitiva, com défice de linguagem (ecolália, incapacidade de conjugar verbos) e lentificação psicomotora; Caso 2 - Doença cerebrovascular, com monoparésia do membro inferior esquerdo; Caso 3 - Distúrbio convulsivo, com crise convulsiva generalizada tónico-clónica; Caso 4 - Síndrome desmielinizante, com alterações disestésicas a nível dos mem-

bros inferiores, associada a diplopia secundária a oftalmoplegia internuclear. Nenhuma das doentes apresentava envolvimento neurológico prévio. As alterações apresentadas em RMN foram sugestivas de vasculite do SNC: um doente apresentou lesões isquémicas corticais associadas a estenoses segmentares das artérias cerebrais médias, com captação de gadolíneo; dois doentes apresentaram lesões focais hiperintensas (T2/FLAIR) a nível da substância branca cortical; um doente apresentou lesão focal núcleo-capsular hiperintensa (T2/FLAIR) com evolução posterior para foco hemorrágico. Todos os doentes foram tratados com prednisolona (0.5-1mg/kg/dia) e em dois casos administraram-se pulsos e.v. de metilprednisolona (500--1000mg/dia/3 dias). Três doentes receberam também pulsos e.v. mensais de ciclofosfamida (500-750mg/m2) e num caso administraram-se pulsos e.v. de imunoglobulina humana. Todos os doentes apresentaram melhoria clínica, total ou parcial, das manifestações neurológicas, até à data de última avaliação.

Conclusão: Estes casos evidenciam a heterogeneidade clínica e imagiológica da vasculite do SNC em doentes com LES. Pretendemos realizar estudos multicêntricos, de forma a reunir casuística de dimensão suficiente para o estudo apropriado desta complicação rara do LES.

C04 – CHANGES IN DAS28, CDAI AND SDAI ARE ASSOCIATED WITH BIOLOGIC CLASS, GENDER, PREVIOUS BIOLOGIC THERAPY AND ACPA/RF STATUS – RESULTS FROM REUMA.PT

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Introduction: Tocilizumab (TCZ) and anti-tumor necrosis factor (TNF) biologic agents are key therapies in the management of rheumatoid arthritis (RA). They are considered to be equally effective and very few head-to-head comparisons have been published. Due to its effect on acute phase reactants, TCZ presents better response rates using DAS28 compared to other indexes such as CDAI or SDAI. Whether other factors influence response according to these response measures is still unclear. We aimed to compare response to therapy in RA patients treated with anti-TNF agents and TCZ according to different response measures and determine the factors influencing it.

Methods: We included RA patients registered in the Rheumatic Diseases Portuguese Register, Reuma.pt, who started anti-TNF or TCZ after January 1, 2008, were treated for at least 6 months and had available DAS28 scores at baseline and at 6 months. Our primary outcome was the change in DAS28, CDAI and SDAI at 6 months. We performed linear regressions to compare the groups and determined the best model predicting change in disease activity for each index.

Results: 524 RA patients were enrolled, (106 adalimumab, 202 etanercept, 43 golimumab, 78 infliximab, 95 TCZ). At baseline, TCZ users were less frequently naïve to biologic therapies (54.7% vs. 85%, p<0.0001), had more swollen and tender joint counts (p<0.0001 and p=0.02, respectively) and higher disease activity according to all indexes: DAS28 6.1±1.1 vs. 5.4±1.3 (n=524, p<0.0001), CDAI 33.3±13.2 vs. 28.1±13.6 (n=376, p=0.005), SDAI.35.6±13.1 vs. 29.1±30.4 (n=361, p=0.004). At 6 months, change in DAS28, CDAI, SDAI and joint counts was significantly higher in the TCZ group (Table I). Multivariate linear regression models best predicting change in disease activity included biologic class, number of previous biologics, baseline activity, gender and ACPA/RF status (Table II). Compared to anti-TNF, TCZ was associated with a larger difference in delta-DAS28, delta-CDAI and delta-

TABLE I. BASELINE AND CHANGE IN DISEASE ACTIVITY ACCORDING TO BIOLOGIC CLASS (MANN-WHITNEY TEST)

Change at 6 months	Anti-TNF (n=429)	Tocilizumab (n=95)	p-value
delta-DAS28	1.8 (1.4)	3.3 (1.6)	<0.0001
delta-CDAI (n=327)	16.0 (13.6)	22.7 (15.7)	0.0003
delta-SDAI (n=298)	17.1 (14.8)	25.2 (16.5)	0.0001
delta-SJC	4.7 (4.8)	7.8 (6.6)	<0.0001
delta-TJC	6.4 (7.2)	8.7 (7.7)	0.005

TABLE II. MULTIVARIATE LINEAR REGRESSION MODELS PREDICTING 6-MONTHS CHANGE IN DISEASE ACTIVITY

	delta-DAS28 (n=524)	delta-CDAI (n=286)	delta-SDAI (n=260)
Adjusted-R2	0.391	0.613	0.559
Covariables	**ß-coefficient (p)**	**ß-coefficient (p)**	**ß-coefficient (p)**
Biologic class (TCZ)	1.45 (<0.0001)	4.25 (0.004)	5.41 (0.003)
No. previous biologics	-0.41 (<0.0001)	-2.47 (0.002)	-2.78 (0.004)
Baseline activity	0.54 (<0.0001)	0.79 (<0.0001)	0.77 (<0.0001)
Female gender	-0.40 (0.02)	-1.74 (0.29)	-1.64 (0.41)
ACPA/RF positivity	-0.45 (0.004)	-3.65 (0.01)	-4.77 (0.008)

-SDAI of, respectively, 1.45, 4.25 and 5.41.
Conclusions: TCZ treatment was associated with greater change in DAS28, CDAI, SDAI and joint counts at 6 months. Biologic class, number of previous biologics, baseline activity, gender and ACPA/RF status predicted change in disease activity.

CO5 – THE INFLUENCE OF TYMS POLYMORPHISMS IN METHOTREXATE THERAPEUTIC OUTCOME OF RHEUMATOID ARTHRITIS PORTUGUESE PATIENTS

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Introduction: Therapeutic outcome of rheumatoid arthritis (RA) patients treated with methotrexate (MTX) could be conditioned by thymidylate synthase (TS) levels, which may be altered by genetic polymorphisms in TS gene (*TYMS*). The aim of this study was to elucidate the clinical relevance of three *TYMS* polymorphisms, using genotype and haplotype-based approaches, in MTX therapeutic outcome (regarding both response and toxicity) in Portuguese RA patients.
Material & Methods: In this study were included 233 Caucasian RA patients treated with MTX. Clinicopathological data were collected, outcomes were defined and patients were genotyped using polymerase chain reaction-restriction fragment length polymorphism or sequencing technology for the following *TYMS* polymorphisms: 1) 28 base pairs (bp) variable number tandem repeat (rs34743033); 2) single nucleotide polymorphism C>G (rs2853542); and 3) 6bp sequence deletion (1494del6, rs34489327). MTX clinical response was recorded at the time of each visit. Non-response was defined if patients presented a Disease Activity Score in 28 joints (DAS28) >3.2 in two consecutive evaluations despite being using high-doses of MTX either in monotherapy or combined with other classic DMARDs. Therefore, at least six months of MTX therapy was required to define which patients had non-response to MTX. Response to MTX was defined when patients presented a DAS28 ≤3.2. The occurrence of MTX-related toxicity, defined when patients presented any adverse drug reaction (ADR) related to MTX treatment, independently of the MTX dose and administration route, was recorded at the time of each visit. The type of ADR was classified in System Organ Class disorders, in accordance with the Common Terminology Criteria for Adverse Events. For statistical analysis, chi-square and binary logistic regression analyses

(adjusted to possible confounding variables) were performed. Haplotype analyses were used to better understand the contribution of the *TYMS* in MTX therapeutic outcome.
Results: Considering *TYMS* genotypes, 3R homozygotes (p=0.005, OR=2.34), 3RC3RG genotype (p=0.016, OR=3.52) and 6bp- carriers (p=0.011, OR=1.96) were associated with non-response to MTX, when compared to 2R carriers, 2R3RG and 6bp+ homozygotes, respectively. Multivariate analyses confirmed the increased risk for non-response to MTX in 6bp- carriers (p=0.020, OR=2.40). *TYMS*polymorphisms were in linkage disequilibrium in our population (p<0.00001) and alleles 2R and 6bp+ were the most frequent and linked ones (D'=0.67). The haplotype analysis revealed that the haplotypes 3R6bp--(p=0.001, OR=2.54), 3RC6bp+ (p=0.041, OR=1.79), 3RC6bp- (p=0.013, OR=2.80) and 3RG6bp- (p=0.009, OR=2.39) were associated with non-response to MTX when compared to 2R6bp+ haplotype. Multivariate analysis demonstrated that haplotypes 3R6bp--(p=0.012, OR=2.68), 3RC6bp- (p=0.048, OR=2.89) and 3RG6bp- (p=0.043, OR=2.60) were associated with non-response to MTX when compared to 2R6bp+ haplotype. Regarding MTX-related toxicity, no statistically significant differences were observed in relation to *TYMS* genotypes and haplotypes.
Conclusions: *TYMS* polymorphisms could be important to help predicting clinical response to MTX in RA patients and seem not to be important in predicting MTX-related toxicity. The effect of *TYMS* 1494del6 polymorphism in clinical response showed the strongest correlation. Despite the potential of these findings, translation into clinical practice needed larger studies to provide positive confirmation.

CO6 - BONE MINERAL DENSITY, SCLEROSTIN AND INSULIN ARE INDEPENDENTLY ASSOCIATED WITH CORONARY-ARTERY ATHEROSCLEROSIS IN PATIENTS WITH ESTABLISHED RHEUMATOID ARTHRITIS

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Introduction: Rheumatoid arthritis (RA) is associated with premature atherosclerosis and increased prevalence of cardiovascular disease (CVD), shortening the life expectancy of patients by 5 to 10 years. Inverse associations have been described between bone mineral density (BMD) and coronary artery calcification (CAC) in different diseases.
Objective: To determine the degree of association of CAC Score (CACS) with bone density, bone markers, traditional and nontraditional CVD risk factors in patients with established RA without known coronary disease, nor cardiac symptoms or CV events.
Methods: Clinical features and peripheral blood samples were collected from a monitoring visit. HAQ and the disease activity score (DAS28 (4v)) were obtained. We measured the following laboratory parameters: ESR, CRP, traditional CVD risk factors, homocysteine, insulin, BNP, serum β-C-telopeptides of type 1 collagen cross-links (β-CTX1), osteocalcin, Dkk-1 (ELISA, Biomedica), sclerostin (ELISA TECOmedical), RANKL (ELISA, Cusabio) and OPG (ELISA, Biomedica). BMD was assessed by Dual energy X-ray Absorptiometry (Lunar Expert® 1320) at the lumbar spine, total hip, femoral neck, Wards triangle, hands and second proximal phalanges. CACS was determined using a 64--lice computed tomography scanner, Somatom Sensation Cardiac 64 (Siemens,Germany). Coronary calcium was measured by Argus software; CACS was determined by the Agatston score. A multivariate analysis model was used for statistical analysis (IBM SPSS Statistics 21).
Results: We evaluated 57 RA patients, 42 (74%) women, age 54 ± 12 years, disease duration 14 ± 10 years, mean DAS28 (4v) of 4.15 ± 1.24 and a mean HAQ of 1.32 ± 0.69. In our sample, 29 (51%) were under biologics, 21 (37%) under anti-TNFalpha agents, 44

(77%) under NSAIs, 46 (81%) under low dose prednisone, 23 (40%) under bisphosphonates and 11 (19%) under vitamin D supplements. Six (11%) of the patients had *diabetes mellitus*, 10 (18%) arterial hypertension, 8 (14%) dyslipidemia and 6 (11%) were ever-smokers. CAC was detected in 31 (54%) patients (CACS ≤10: 37 (66%); 10< CACS ≤100: 10 (17%); CACS >100: 10 (17%). Lumbar spine, total hip, femoral neck, Wards triangle, hands and second proximal phalanges BMD are inversely associated with CACS ($p < 0.05$) after adjusting for age, disease duration, body mass index, DAS28 (4v), current HAQ, time under DMARDs therapy, years of corticosteroid use and years of bisphosphonates use. In terms of bone metabolism, lower levels of sclerostin were associated with higher CACS ($p < 0.05$) (after adjusting for age, age at diagnosis, disease duration, body mass index, DAS28 (4v), current HAQ, current average daily dose of prednisone and years of bisphosphonates use). None of the traditional CVD risk parameters were associated with CACS. Insulinemia was inversely associated with CACS ($p < 0.001$), after adjusting for age, age at diagnosis, disease duration, body mass index, DAS28 (4v), current HAQ, time under DMARDs therapy, time under biologics, years of corticosteroid use and current average daily dose of prednisone.

Conclusions: Our RA population reproduced the inverse relationship between, either systemic or localized, BMD and CAC, supporting the hypothesis that bone metabolism and atherosclerotic plaque mineralization are related processes. As in the african american-diabetics, sclerostin was negatively associated with carotid calcified atherosclerotic plaque in our RA patients. Our study failed to confirm the link between insulin resistance and CAC.

CO7 – BIOLOGIC DISEASE MODIFYING ANTI-RHEUMATIC DRUG USE IN THE TREATMENT OF JUVENILE IDIOPATHIC ARTHRITIS: DATA FROM THE RHEUMATIC DISEASES PORTUGUESE REGISTER, REUMA.PT.

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Background: The Portuguese Society of Rheumatology developed the Rheumatic Diseases Portuguese Register (Reuma.pt) encompassing also Juvenile Idiopathic Arthritis (JIA) patients followed by rheumatologists and pediatricians.

Objectives: This study aims to obtain a complete overview of biologic DMARD use in Portuguese children with JIA. We also pretend to assess the effective-

ness and safety of biological therapy at 6 months and 1 year of treatment.
Methods: We retrieved data from Reuma.pt, until December 2013. Once inPortugal there is no medical specialty of Pediatric Rheumatology, both rheumatologists and pediatricians contributed to insert the clinical data. We collected baseline patient and disease characteristics of all Portuguese patients with JIA who started biological treatment. Follow-up data (disease activity, adverse events and switches of biological agent) were analyzed and are presented at 6 months and 1 year. The outcome measures used to assess disease activity were the number of active joints, erythrocyte sedimentation rate (ESR) and the Childhood Health Assessment Questionnaire (CHAQ).
Results: Of the 812 patients with JIA registered in Reuma.pt (mean age 19.9 ±11.3 years, 65% females, mean age at JIA onset 6.9 ±4.7 years) 227 received biological therapy and 202 are currently medicated with these agents. The mean age at disease onset of JIA patients ever treated with biologic DMARDs was 6.9 ± 4.7 years and the mean age for starting biological therapy was 16.1 ± 9.4 years. Sixty-nine (30.4%) patients started biological therapy in adult age. The mean follow-up duration was 5.2 ± 6.1 years. The most common JIA categories that started biologics were polyarticular rheumatoid factor (RF) negative (23.3%), followed by polyarticular RF positive (17.5%), extended oligoarticular (16.0%), enthesitis-related arthritis (15.0%), systemic (13.6%), persistent oligoarticular (9.7%) and juvenile psoriatic arthritis (4.8%). The median duration of the first biological agent was 5.76 years (4.8-8.3). The total exposure to biologics was 1018.9 ±4.5 years (median: 2.2). Most patients were treated with anti-TNF as first line (90.3%): etanercept 69.2% (157 patients), adalimumab 12.8% (29 patients) and infliximab 8.4% (19 patients). All patients taking anakinra (4.8%) had systemic JIA. Abatacept was the first choice in 3.5% (8), tocilizumab in 0.88% (2) and rituximab in 0.4% (1 patient). The mean active joint count reported at the beginning of biological therapies was 5.1 ± 5.8 and decreased to 1.2 ± 2.4 and 1.0 ± 3.1 after respectively 6 months and 1 year of therapy. Mean ESR was 33.9 ± 25.3 mm/1st hour at biological treatment onset and of 26.9 ± 23.9 and 19.1 ± 18.0 after respectively 6 months and 1 year of treatment. The mean CHAQ decreased from 0.8 ± 0.7 at baseline to 0.4 ± 0.5 and 0.4 ± 0.5 at 6 months and 1 year, respectively. 32 (14.1%)switched once to other biological therapies (3.08% in the first 6 months and 4.4% in the first year), 13 (5.73%) switched twice (0.88% in the first 6 months and 1.76% in the first year) and 2 patients (0.88%) switched 3 times of biological agent after the first year of treatment. During biological therapy, 14 serious adverse events were reported leading to discontinuation of the treatment,6 in the first 6 months and 8 in the first year of treatment. There were no reported deaths. The one-year treatment retention with biological agents was 91%.
Conclusions: JIA patients treated with biologics and registered in Reuma.pt showed a good profile of effectiveness and safety at 1 year.

CO8 – PRODUÇÃO E ABSENTISMO LABORAL NAS ESPONDILARTRITES

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Introdução: Os *indicadores* económicos assumem uma importância crescente nos estudos observacionais e clínicos, sendo que os custos relacionados com o absentismo laboral (custos indirectos), são parte essencial nesta equação. As espondilartrites (SpA), como doença crónica, interferem na qualidade de vida dos doentes com elevados custos diretos, indiretos e intangíveis muitas vezes difíceis de quantificar. O WPAI (Work Productivity and Activity Impairment) é uma ferramenta que permite avaliar o absentismo (número total de horas semanais sem trabalhar devido a doença), limitação nas actividades profissionais (limitação, apesar de presente no trabalho), e limitação global combinada.
Objectivos: Avaliar a produtividade profissional e absentismo numa coorte de doentes com SpA, sua relação com a actividade, função e duração da doença, sexo e idade dos doentes.
Métodos: Estudo transversal. Variáveis analisadas: sexo, idade, duração da doença. Todos os doentes responderam ao WPAI. Para as SpA periféricas (SpAp) foi calculado o DAS e nas SpA axiais (SpAa) o BASDAI e BASFI. Analise estatística com SPSS versão 18.0
Resultados: SpAa - Foram incluídos 38 doentes, 22 homens e 16 mulheres, com média de idades de 42.6±15.9anos e duração média da doença de 10.16±11.13anos. O valor médio de BASDAI foi de 4,36±2.32 e BASFI de 3.67±2.55. Trinta doentes apresentavam trabalho activo e remunerado (79%). O WPAI - absentismo médio foi de 12.45±6%, o WPAI -

limitação média nas actividades profissionais foi de 45±19%, e o WPAI - limitação global combinada foi de 51.3±18,44%. Verificamos uma relação estatisticamente significativa entre valores mais elevados de BASDAI e BASFI e valores elevados de todos os índices de limitação laboral; encontrámos também relação estatisticamente significativa entre a idade mais avançada e WPAI - limitação global combinada ($p<0.01$). Não encontramos relação entre a duração da doença e os índices avaliados. SpAp - Foram incluídos 42 doentes, 28 homens e 14 mulheres, com média de idades de 51.7±11.5anos e duração média da doença de 7.66±8.79anos. O valor médio do DAS foi de 2.5±1.1. Trinta e um doentes tinham trabalho activo e remunerado (73.8%). O WPAI - absentismo médio foi de 7.98±7.2%, o WPAI - limitação média nas actividades profissionais foi de 30±14.6%, e o WPAI - limitação global combinada foi de 35.02±16.7%. Verificou-se uma relação estatisticamente significativa entre o aumento da actividade da doença e todos índices profissionais avaliados. Não foi encontrada relação estatisticamente significativa com o sexo nem com a duração da doença.

Conclusão: Os resultados encontrados no estudo são consistentes com a literatura. Verificámos uma elevada percentagem de doentes com limitação laboral e absentismo, directamente relacionados com a actividade da doença, especialmente no grupo das SpAa. Na nossa coorte, verificámos ainda que o impacto da doença na actividade profissional se deve em grande parte à limitação nas actividades laborais, e menos ao absentismo. O impacto das doenças reumáticas na actividade laboral não pode ser menosprezado, especialmente quando falamos de doentes com espondilartrites, frequentemente jovens.

C09 – CAN WE USE ENTHESIS ULTRASOUND AS AN OUTCOME MEASURE OF DISEASE ACTIVITY IN SPONDYLOARTHRITIS? A STUDY AT ACHILLES LEVEL.

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Objective: To evaluate the construct validity of the enthesis ultrasound in the assessment of disease activity in Spondyloarthritis.

Methods: A longitudinal Achilles enthesis ultrasound study in patients with early SpA was undertaken. Achilles ultrasound examinations were performed at baseline, six- and twelve-month time periods and compared with clinical outcomes measures collected at basal visit.

Results: Bilateral Achilles enthesis of 146 early SpA patients (68 women) were analysed. Basal mean ±SD (range) BASFI, BASRI-spine, BASDAI, and ASDAS were 2.44±2.05 (0-8), 0.67±0.74 (0-3), 4.60±2.07 (0-9.5), 2.51±1.16 (0-5), respectively. Baseline mean visual analogic scale for pain and patient global disease assessment were 5.15±2.5 (range of 0-10) and 2.98±1.56 (range of 0-7), respectively. Mean erythrocyte sedimentation rate was 15.0±16.99 (0-109) mm/h and C--reactive protein was 8.67±16.98 (1-90) mg/l. At baseline Achilles Doppler signal and ultrasound structure alteration were statistically significantly associated with higher CRP and ESR levels. Patients with basal very high disease activity assessed by ASDAS (>3.5) had significantly higher Achilles total ultrasound score verified at baseline ($p= 0.04$); and ASDAS <1.3 predicted no Doppler signal at six and 12 months. Overall, Achilles total ultrasound score per patient was significantly greater in patients with basal higher levels of CRP (baseline $p= 0.04$; six months $p=0.006$; twelve months $p=0.03$) and ESR (baseline $p=0.02$; six months $p=0.04$; twelve months $p=0.005$). Doppler signal at basal visit predicted higher total ultrasound score at six and twelve months.

Conclusions: Doppler ultrasound seems to be an objective outcome in enthesitis that has significant association with other commonly accepted disease activity measures as ESR, CRP and ASDAS.

C010 – RETENTION RATE AND PREDICTIVE FACTORS OF TNF INHIBITOR DISCONTINUATION IN PATIENTS WITH ANKYLOSING SPONDYLITIS – RESULTS FROM THE RHEUMATIC DISEASES PORTUGUESE REGISTER REUMA.PT

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Background: Tumor necrosis factor-alpha inhibitors (TNFi) are currently the only therapeutic option when conventional treatment fails in ankylosing spondylitis (AS) patients.
Objectives: To assess the retention rate and investigate predictive factors and reasons for drug discontinuation in patients with AS starting their first TNFi.
Methods: We included all new biological starters AS patients fulfilling the 1984 modifiedNew York classification criteria, registered at the Rheumatic Diseases Portuguese Register, Reuma.pt from June 2008 until October 2011. Retention rate at 2 years was evaluated using survival-data analysis methods with discontinuation of the drug, regardless the reason, as the primary outcome. Potential predictive factors of drug discontinuation (demographic, clinical and laboratorial) were assessed using log-rank tests and a Cox proportional--hazards regression model.
Results: Of the 334 AS patients starting a TNFi, 265 (79.34%) maintain treatment after 2 years of follow--up. Median drug survival among patients who discontinued treatment was 10.9 months (95% CI: 7.7--13.0 months) with a discontinuation rate of 11.6% per year. The main reason for treatment cessation was adverse events (34.4%) followed by lack of response at 12 weeks (23.2%). Drug survivals were similar regardless of the reason for discontinuation or TNFi used. Compared with patients who retain their first TNFi those who discontinue treatment, were more frequently women (p=0.04), were older at disease beginning (p=0.01) and at TNFi beginning (p=0.03), had higher BMI (p=0.01) and higher Bath Ankylosing Spondylitis Functional Index (BASFI, p=0.02) at baseline. In multivariable Cox regression, older age at TNFi beginning was the only baseline predictor of drug discontinuation (HR 1.06, 95% CI 1.02 – 1.10, p=0.006).
Conclusions: Retention rate was high among AS patients starting their first TNFi. Adverse events were the main reason for drug discontinuation and older age at treatment onset was a predictor of shorter drug survival.

C011 – SHEAR-WAVE ELASTOGRAPHY: IS IT POSSIBLE TO DISTINGUISH "UNAFFECTED" SKIN IN SCLERODERMA PATIENTS FROM HEALTHY SKIN?

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Introduction: Skin involvement is a fundamental clinical feature in systemic sclerosis (SSc), often considered the primary outcome in clinical trials. Nonetheless, it remains orphan of a fully validated, sensitive and reliable quantitative assessment technique. Shear-wave elastography in the form of Siemens' proprietary - Virtual Touch and Imaging Quantification (VTIQ)- is an emerging, new ultrasound elastography imaging method that provides qualitative and quantitative information about absolute skin stiffness.
Objective: To compare absolute skin stiffness values of clinically unaffected scleroderma skin and the skin of healthy controls, using VTIQ.
Methods: Twenty-six SSc patients (13 limited SSc, 13 diffuse SSc), with a mean age of 55.3±12.1 years and a

TABLE I. CLINICAL AND SEROLOGICAL CHARACTERISTICS OF RHEUMATOID ARTHRITIS PATIENTS (N=385)

Sites	Cut-off values	Sensibility (%)	Specificity (%)	Area under curve (CI 95%)
Chest	2.65	61.5	70.6	0.666 (0.505-0.828)
Abdomen	2.05	61.5	64.7	0.673 (0.514-0.832)
Upperarm	2.35	84.0	64.7	0.787 (0.648-0.926)
Forearm	2.35	84.6	70.6	0.861 (0.748-0.974)
Hand	2.45	88.5	82.4	0.958 (0.907-1.0)
Finger	2.45	88.5	88.2	0.942 (0.874-1.0)
Tight	2.25	80.0	81.2	0.84 (0.716-0.964)
Leg	2.45	68.0	62.5	0.72 (0.566-0.874)
Foot	2.35	84.0	53.3	0.852 (0.736-0.968)
Total	2.37	96.2	88.2	0.962 (0.909-1.0)

disease duration of 12.5 years (range 0.5-36) were included. Seventeen age and gender matched controls were recruited. Absolute skin stiffness was measured on the basis of shear-wave velocity (in m/s) using a using a Siemens ACUSON S3000 ultrasound system, at all Rodnan sites (face was excluded). Higher shear-wave velocity values represent harder tissues (Figure 1). Skin thickness was evaluated using the modified Rodnan skin score. For the purpose of this study we only included, for SSc patients, anatomical sites with clinically unaffected skin (local mRSS = 0).

Comparison between groups was performed through Mann-Whitney test, *p* values <0.05 were considered significant. Receivers operating characteristic curves were performed to each Rodnan site to determine the cut-off value to discriminate SSc patients from controls.

Results: Absolute skin stiffness measurements were higher in all "unaffected" SSc skin (defined as local mRSS = 0) than in the controls. The mean and SD absolute stiffness measurements were (in m/s): chest - - SSc 2.7±0.9 *vs* control 2.3±0.7; abdomen - SSc 2.4±0.8 *vs* control 2.0±0.4; upperarm – SSc 2.6±0.4 *vs* control 2.2±0.3; forearm – SSc 2.5±0.3*vs* control - - 2.2±0.3; finger –SSc 2.9±0.8 *vs* control – 2.2±0.3; hand –SSc 2.9±0.6 *vs* control – 2.2±0.3; thigh – SSc 2.4±0.3 *vs* control 2.1±0.2, leg – SSc 2.8±0.6 *vs* control 2.3±0.3 and foot – SSc 2.8±0.6 *vs* control 2.3±0.3. Statistical significance (p<0.001) was achieved at the forearm, hand, thigh and foot, and (p<0.01) at the upperarm, finger and leg. Statistical significance was not reached for the chest (p=0.15) and the abdomen (p=0.06). A cut-off value of 2.37 provided better discrimination between SSc patients and controls, with a sensitivity of 96.2% and specificity of 88.2% (Table I).

Conclusions: Shear-wave elastography adds sensitivity to the assessment of skin stiffness in SSc. What appears to be "unaffected" skin in SSc may be "sub-clinically involved", as shown by increase shear-wave velocity measurements. Shear-wave elastography may help in the identification of patients in an early phase of the disease and assist in the evaluation of novel therapies.

C012 – NAIFOLD CAPILLAROSCOPY IN CONNECTIVE TISSUE DISEASES: A PORTUGUESE RHEUMATOLOGY UNIT EXPERIENCE

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Introdution: Nailfold capillaroscopy (NC) is a non-invasive and safe technique that allows the detection and quantification of the early microvascular abnormalities which are associated with Connective Tissue Diseases (CTDs). Its importance is well recognizing in differential diagnosis of CTDs with Raynaud phenomenon (RF) and it has also a prognostic value, mainly in Systemic Sclerosis (SSc).

Objective: To evaluate the NC experience of a Portuguese Rheumatology unit, concerning macroscopic patterns found and its relationship with diagnosis of

TABLE I. CDTS, DEMOGRAPHIC CHARACTERISTICS, RF, PRESENCE AND TITLE OF ANA AND MACROSCOPHIC ABDORMALITIES

CTDs	UCTD	SLE	SS	SSc
N	85	53	58	66
Gender (M/F)	3/82	1/52	3/55	3/63
Age (M±SD)	49.9±11.9	45.4±16.0	55.1±11.6	55.0±14.9***
RF (years of evolution until diagnosis)	4.3±7.2	6.7±11.4	4.6±7.8	11.0±11.2***
ANA+	83.3%	95.6%*	74.4%	94.3%***
High title of ANA	60.3%	86.7%**	62.8%	90.6%***
Major abnormalities	51.9%	52.9%	37.5%	93.7%***
Dilatations	64.6%	86.3%*	62.5%	38.1%***
Hemorrhages	48.1%	52.9%	37.5%	79.4%***
Megacapillaries	11.4%	3.9%	3.6%	85.7%*
Avascular areas	1.3%	2.0%	0.0%	49.2%*

*statistic significance comparing SLE with CI; **statistic significance comparing SLE with SS; *** statistic significance comparing SSc and the other CTDs listed

CTDs and presence and title of ANA.

Methods: The NC patterns were obtained by a single rheumatologist in a Portuguese Rheumatology unit, using a Zeiss® stero-microscopy (2x-100x times) and, when necessary, using video-capilaroscopy (200x). The results were included in three major morphologic patterns: normal pattern, *minor* abnormalities (dilatations and vascular tortuosity) and *major*abnormalities (hemorrhages, mega-capillaries and avascular areas). Results were collected regarding presence/titer of ANA, motive of request of the exam and rheumatologic diagnosis. Statistic analysis included Kruskal-Wallis, Qui-Square, Mann-Whitney and Spearman correlation, with a significance of $p<0,05$.

Results: Our sample included 1509 subjects, mean aged 47.8±15.7 years old, 91% were female. Eighty five subjects had Undifferentiated Connective-Tissue Disease (UCTI) – 5,6%, 66 had Systemic Sclerosis (SSc) - 4,4%, 58 had Sjogren Syndrome (SS) -3,8% and 53 had Systemic Lupus Erythematosus (SLE) - 5,5%. The mean age was higher in subjects with SS (55.1±11.6 years old), followed by UCTI (49.91±11.9 years old) and SLE (45.4±16 years), p=0,001. Subjects with SSc had higher frequency and higher titles of ANA, higher frequency of abnormalities in NC, and higher frequency of *major* abnormalities, concerning the other CTDs. Subjects with SLE had higher frequency and tithe of ANA and higher frequency of dilatations in NC. These aspects are listed in Table I.

Discussion: We found differences in the NC regarding several CTDs. The patients with SSc had higher frequency of a abnormalities in NC, as well as higher frequency of *major*abnormalities comparing with patients with SLE, UCTD and SS. In patients with UCTD, the presence of megacapilares in NC may alert to the some CTDs in which this finding is present. NC is a unique tool to evaluate microcirculation in these patients and its patterns may be useful in the differential diagnosis of CTDs. Its application should be assessed in diseases in which a microvascular component is suspected.

C013 - LOW BACK PAIN AND FIBROMYALGIA – EPIREUMAPT SURVEY RESULTS

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Background/Aim: In industrialized countries chronic low back pain (CLBP) and Fibromyalgia (FM) are leading causing for prolonged sick leave, early retirement, high health care costs and poor health status. Few studies have compared the burden between these diseases. The aim of this work is to determine the prevalence of CLBP and FM in Portugal and to compare function, health status, health care consumptions and early retirement between chronic low back pain (CLBP) and fibromyalgia (FM) in Portuguese patients.

Methods: EpiReumaPt is a national epidemiologic, cross-sectional study of RDs in the Portuguese population. A survey was randomly performed by trained interviewers at subjects' homes (selection by random route) and the recruitment began on 19 September 2011 and was finished on 20th December 2013. The survey included sociodemographic, socioeconomics, life style, health consumptions, and functional status and quality of life data. Participants with available information on low back pain (Y/N) and fibromyalgia symptoms auto-reported questionnaire were included. CLBP was defined as self-reporting LBP in majority of time in at least 7 weeks and fibromyalgia patients were selected according to a self-reported algorithm that included 2012 ACR fibromyalgia diagnostic criteria. Patients that self-reported previous Spa diagnosis and

TABLE I.

	CLBP (%) (n=1336)	Fibromyalgia (%) (n= 1445)	P Value
Age (SD)	57.0 (55.4-58.64)	57.4 (56.4-58.4)	0.6888
Female (%)	63.7	82.3	<0.0001
BMI	27.4 (27-27.9)	27.6 (27.2-27.9)	0.6647
Ethnicity (Caucasian)	98	98.1	0.9094
NUTS II			
Norte	40	31.8	
Centro	20.8	30.3	
Lisboa	23.3	22.7	
Alentejo	6.9	7.3	0.0002
Algarve	3.9	3.8	
RAA	2.4	1.6	
RAM	2.7	2.5	
Present Smoking habits			
Daily/Occasionally	16.9	17	0.9570
No	83.1	83	
Present Alcohol intake			
Daily	24.9	12.3	<0.0001
Regular Exercise	21	27.5	0.0034
Education level (years)			
0-4	57	57.7	
5-12	34.6	33	0.7551
>12	8.4	9.3	
Employment status			
Active worker	33	29.8	
Domestic	6.3	7.1	
Unemployed	10.4	11.8	
Retired	44.1	45.7	0.6862
Temp. work incapacity	3.2	3.5	
Other	2.9	2.2	

concomitant CLBP and FM were excluded in the comparative analysis. To compare the number of out-patient clinic visits in the previous year, regardless of specialty, physical therapy appointment ever (y/N), Health Assessment Questionnaire (HAQ), health status VAS and the EuroQoL-5 dimensions survey (EQ-5D) scores between these two diseases we used multivariable linear and logistic regression to adjust for potential confounders. All analyses were weighted to ensure the correctly representativeness of the population.

Results: Of the randomly selected 10,661 Epireuma.pt participants, 2781 were eligible for analysis. The reported prevalence of LBP was 19% (95%CI 18.2-19.9), CLBP was 9.7% (95%CI 9.1-10.2) and fibromyalgia was 10.4% (95%CI 9.8-11) (Table 1). Crude analyses revealed that fibromyalgia patients had significantly more disability (0.95 (0.91-1) vs 0.60 (95%CI 0.55--0.65) p<0.001), lower QoL visual analogic scale (54.1 (52.9-55.4) vs 61.9 (60.2-63.5)) p<0.001), and lower health status (0.53 (0.51-0.54) vs 0.63 (0.61-0.65) p<0.001)) and this differences remain significant after adjusting for age, gender, BMI, exercise, alcohol intake and educational level. Moreover, fibromyalgia patients have more physical therapy requirements (OR=1.50; 95% CI [1.11-2.03] p<0.001) and more outpatient visits (>12) per year than CLBP patients (OR=1.83; 95% CI [1.34-2.50]; p<0.001) adjusting for age, gender, BMI, exercise, alcohol intake and educational level. Finally, 10.5% of fibromyalgia and 6.5% of the CLBP patients reported early retirement due to a rheumatic disease and this difference was also statistically significant (p=0.0023).

Conclusion: Portuguese prevalence of fibromyalgia and CLBP is similar to other European countries. Fibromyalgia patients have heavy burden with lower function and health status and more health consumption when compared to CLBP patients. In Portugal, one in 10 patients with fibromyalgia are early retired due to RD.

C014 – HEPATITIS B SEROLOGIC PROFILE AND REACTIVATION IN RHEUMATIC PATIENTS TREATED WITH BIOLOGICAL THERAPIES – SINGLE CENTRE EXPERIENCE

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Background: Biologic therapy for rheumatic diseases has been associated with increased risk of latent infections reactivation such as tuberculosis or hepatitis B (HB), due to severe immunosuppression. However, the actual risk of HB reactivation is still unclear regarding the several biologics available, especially in low-incidence countries such as Portugal. We aimed to evaluate the serologic HB profile of biologic-treated rheumatic patients in a single centre and assess the incidence of HB reactivation.

Methods: We retrospectively collected electronically available HB serology of rheumatic patients that ever started biological therapy at our department and we reviewed the clinical course to identify reactivation cases, defined as raising viral load and transaminases.

Results: We included 288 patients with available electronic data on HB serologies. Mean age was 43.9±15.7 years (3.1 to 82.3 years), disease duration was 10.9±9.5 years, 63.9% of patients were female and the most common rheumatic disease was rheumatoid arthritis (112, 38.9%), followed by ankylosing spondylitis (76, 26.4%) and psoriatic arthritis (54, 18.8%). As first biologic, 254 patients (88.2%) started anti-TNF agents, 14 (4.9%) rituximab, 11 (3.8%) tocilizumab and 9 patients (3.1%) another biologic. 30 patients (10.4%) eventually stopped biologic treatment. 185 patients (64.2%) were treated with concomitant methotrexate (mean dosage 15.7±5.4mg), 81 (28.1%) with other DMARDs and 169 (58.7%) were treated with corticosteroids (58.7%). All of the 288 patients were HBsAg negative and 23 were anti-HBc positive (9%). The 23

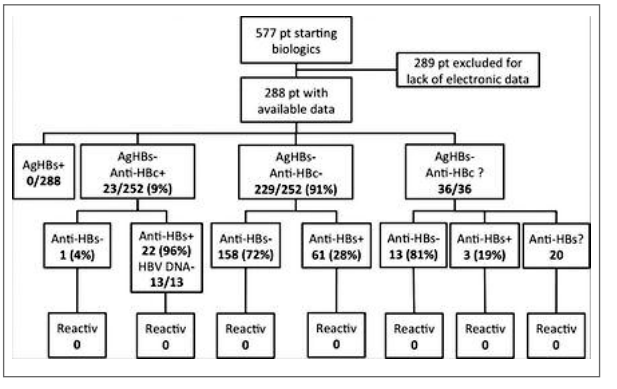

FIGURE 1. Hepatitis B serologic pattern of rheumatic patients starting biological therapy

anti-HBc positive patients did not differ significantly from the overall population in terms of age, gender distribution, disease duration, follow-up time, biologic discontinuation or biologic started. No patient received prophylactic antiviral therapy and there were no cases of reactivation or isolated rise in viral load during a cumulative biologic exposure of 1005.6 patient-years (Figure 1).

Conclusions: In our cohort, there were no cases of HB reactivation on the 288 patients treated with biologic therapy. Anti-HBc positivity was infrequent, viral load was undetectable in all cases and no chronic HB cases were detected.

CO15 – RELAÇÃO DA ACTIVIDADE FÍSICA COM A QV, FADIGA E INCAPACIDADE NUMA POPULAÇÃO DE DOENTES REUMÁTICOS

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Introdução: A caracterização da prática de actividade física (AF), em todos os seus componentes, de lazer, trabalho e relacional é essencial em determinadas populações específicas como é o caso dos doentes reumáticos. Efectivamente, estes doentes têm alterações da sua qualidade de vida (QV) por incapacidade e fadiga associados à doença. Este trabalho teve como objectivo avaliar a relação entre os *scores* obtidos pelo IPAQ para a AF diária e a qualidade de vida, incapacidade, fadiga e actividade da doença, numa população de doentes reumáticos (DR).

Métodos: Foi aplicado um questionário aos doentes seguidos em consulta no IPR, com participação do respectivo reumatologista responsável, num período de 4 semanas (entre Julho a Setembro/2013), que incluiu: SF-12 (MCS e PCS), HAQ-DI, FACIT, EVAs (actividade da doença, dor, fadiga e qualidade do sono), número de articulações dolorosas e tumefactas. A AF foi quantificada pelo IPAQ (*International Physical Activity Questionnaire*), na versão validada para a população portuguesa, que permite obter o *outcome* primário: METS-min-semana, *scores* do tipo de AF (caminhada, AF moderada, AF vigorosa) e 3 níveis de AF (Inactivo, minimamente activo, activo HEPA: *health-enhancing physical activity*). A análise envolveu estatística descritiva, teste t-Student, ANOVA, Mann-Whitney, Kruskal-Wallis, Qui-quadrado e correlação de Spearman, para p<0,05.

Resultados: Este estudo incluiu 240 doentes reumáticos, maioritariamente do sexo feminino (89%), casados (68%), com idade média 57±13 anos. O *score* do IPAQ médio foi de 5850±28367 METS-min-sem, sem diferença significativa entre género, ou grupo de DR designadas inflamatórias *versus* não inflamatórias. O *score* METS-min-sem correlacionou-se positivamente com o MCS (SF12) (r=0.158, p=0.014). Verificaram-se correlações baixas negativas com a idade (r=-0.157, p=0.015), qualidade do sono (r=-0.149, p=0.021), dor (r=-0.129, p=0.047), FACIT (r=-0.158, p=0.014). Os *scores* em METs do tipo de AF caminhada relacionaram-se com valores superiores de HAQ (r=0.206, p=0.004), actividade da doença (r=0.160, p=0.026) e nº de articulações dolorosas (r=0.222, p=0.003). A prática de AF vigorosa estava presente em doentes com valores de FACIT inferiores (r=-0.322, p=0.045). A AF moderada (r=0.234, p=0.002) e vigorosa (r=0.405, p=0.010) relacionou-se positivamente com valores superiores do MSC (SF12). Categorizando a AF, obteve-se 23.8% inactivos, 41.3% minimamente activos e 35% activos HEPA, sem diferenças significativas entre género, DR mais frequentes, grupos de inflamatórias/não inflamatórias, ou pelas diversas classes de IMC. Os doentes com níveis de AF mais activos tinham melhores *outcomes* a nível mental (p=0.001), melhor qualidade do sono (p=0.039) e menos fadiga (FACIT, p=0.028).

Conclusões: Verificou-se que a idade contribuiu para menores dispêndios diários de AF e que a prática de AF se relaciona com menores índices de dor, fadiga e melhor qualidade do sono. A prática de AF vigorosa estava presente em doentes com menos fadiga, enquanto que a caminhada era o tipo preterido pelos doentes com maior incapacidade. O componente de saúde mental foi o outcome de QV com maior correlação com o IPAQ, nomeadamente com o *score* METs-min-sem e relativamente ao tipo de AF praticada, com benefícios no MCS quando AF moderada ou vigorosa. Estes resultados confirmam as limitações a que estas populações estão sujeitas, sendo que, apenas 35% superava as recomendações mínimas de saúde pública de AF, suficiente e compatível com uma vida saudável e com maiores benefícios para a saúde.