AB0290 LOWER EDUCATIONAL LEVELS ARE ASSOCIATED WITH A HIGHER RISK OF RHEUMATOID ARTHRITIS IN A SOUTHERN EUROPEAN NESTED CASE-CONTROL STUDY

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Objectives: To investigate the association between socioeconomic status (SES) on an individual level and incident RA

Methods: EPIC is a multicentre, pan-European prospective cohort study of apparently healthy populations. We undertook a nested case-control study to investigate risk factors for RA, by identifying incident RA cases (pre-RA) and matched controls amongst subjects enrolled in four EPIC cohorts in Italy and Spain. The lifestyle, environmental exposure, anthropometric information and blood samples were collected at baseline. Confirmed pre-RA cases were matched with controls by age, sex, centre, and date, time and fasting status at blood collection. The exposure was SES as measured by level of educational attainment categorised as university (referent), secondary school/technical/professional school, primary school completed, and none. The primary outcome was incident RA. Conditional logistic regression (CLR) analysis was adjusted for ACPA seropositivity, smoking status, and presence of shared epitope (SE). A further model also adjusted for other potential confounders, including body mass index (BMI), waist circumference, physical activity, and alcohol intake.

Results: The study sample included 398 individuals of which 99 individuals went on to subsequently develop RA. In this analysis, time to diagnosis (defined as time between date of blood sample and date of diagnosis), was 6.71 years (SD 3.43).

A significant positive association was observed with level of educational attainment and RA incidence (secondary/technical vs university: OR 5.60, 95% CI 1.59–19.7, primary school vs university: OR 5.06, 95% CI 1.45–17.6, no education vs university: 7.11, 95% CI 1.37–36.8; p for trend 0.02) independent of ACPA seropositivity, SE and smoking).

A significant positive association between level of educational attainment and RA incidence was confirmed in the fully adjusted model (secondary/technical vs university: OR 5.52, 95% CI 1.53–19.9, primary school vs university: OR 4.87, 95% CI 1.38–17.1, no education vs university: OR 6.48, 95% CI 1.21–34.6; p for trend 0.02).

Conclusions: Lower educational levels were independently associated with higher risk of incident RA in this European Mediterranean population.

Disclosure of Interest: None declared

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AB0291 IDENTIFICATION OF JOINT LOCATIONS THAT ARE POOR PROGNOSTIC INDICATORS AND REQUIRE MORE INTENSIVE THERAPY IN AN EARLY, RAPIDLY PROGRESSING RA COHORT: A POST HOC AGREE ANALYSIS

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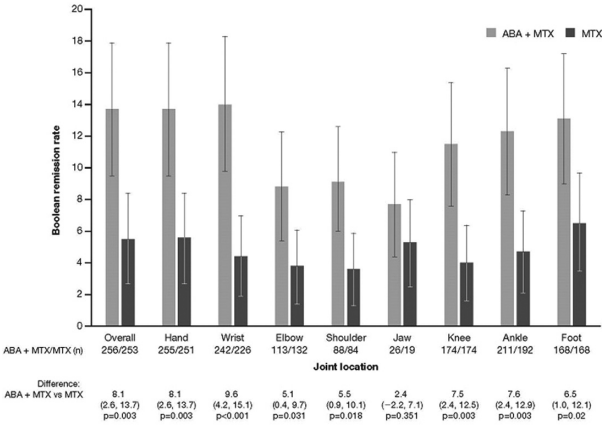
Background: Patients (pts) with early RA often present with multiple areas of involvement. Limited data exist to identify which specific joints or joint locations may be indicative of poorer prognosis and require more intensive initial therapy.[1]

Objectives: This analysis investigated which joint locations have the poorest prognosis and compared clinical response rates between abatacept (ABA)+MTX and MTX monotherapy by baseline (BL) swollen joint status for specific joint locations.

Methods: Data from AGREE (NCT00122382), a double-blind Phase III study of ABA+MTX (n=256) vs MTX (n=253) in biologic-naïve pts with early (≤2 years [yrs]) erosive RA, were analysed by BL swollen joint status (present, absent) for 8 different joint locations: hands, wrists, elbows, shoulders, jaw, knees, ankles and feet. Overall characteristics and study results were reported previously.[2] Swelling was evaluated at BL and after 6 months (mths) of treatment. Differences between treatment groups in clinical response endpoints (i.e. DAS28 [CRP]<2.6, SDAI≤3.3, CDAI≤2.8, Boolean and HAQ remission ≤0.5 at 6 mths) and swelling resolution at 6 mths were assessed by BL swollen joint status, for each joint location.

Results: In an early RA cohort of pts at risk of active, rapidly progressing disease, the proportions of pts (n=509) with a swollen joint at BL were 99% hand, 92% wrist, 79% ankle, 69% knee, 66% foot, 48% elbow, 34% shoulder and 9% jaw. Pts with a swollen jaw (n=45) had more tender joints (mean [SD] 40.0 [15.1] vs 30.1 [14.1]), more swollen joints (35.9 [13.3] vs 21.1 [9.5]), higher total Sharp score (9.4 [10.1] vs 6.9 [9.1]) and longer disease duration (11.7 [9.2] yrs vs 6.0 [6.9] yrs) than those without jaw swelling (n=464). Higher HAQ-DI was seen in pts with a swollen knee or shoulder (1.8 [0.6] vs 1.5 [0.7] and 1.9 [0.6] vs 1.6 [0.7], respectively). Presence of BL synovitis was not associated with greater BL anti-citrullinated protein antibodies or RF positivity, probably due to the inclusion of mainly seropositive pts.

In general, absence of BL swelling was associated with higher clinical response at 6 mths, both for ABA+MTX and MTX. Independent of BL swollen joint status, ABA +MTX had higher clinical response rates (DAS28, SDAI, CDAI, Boolean and HAQ remission) than MTX, except for the non-swollen wrist. Overall mean Boolean remission rates were 13.7% for ABA+MTX vs 5.5% for MTX with difference in proportions (95% CI) of 8.1% (2.6, 13.7) (p=0.003). The largest difference in Boolean remission rate (95% CI) favouring ABA+MTX was 9.6% (4.2, 15.1) (p<0.001) in pts with a swollen wrist at BL (figure 1). Difference in swollen joint resolution between ABA+MTX and MTX was most pronounced for pts with a swollen hand (mean [95% CI]: 42.7% [36.7, 48.8] vs 27.9% [22.4, 33.4], respectively).



Abstract AB0291 – Figure 1. Treatment Group Comparisons of Boolean Remission Rates in Pts with BL Swollen Joint by Joint Location (Proportion [95% CI]).

Conclusions: BL swelling in the shoulder, knee and jaw is associated with a more severe RA profile. Remission rates were higher with ABA+MTX than MTX when BL swelling was present, especially in the wrist. Also, swollen joint resolution was more pronounced with ABA+MTX, especially in the hands.

REFERENCES:

[1] Bergstra SA, et al. RMD Open 2017;3:e000568.

[2] Westhovens R, et al. Ann Rheum Dis 2009;68:1870–7.

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AB0292 AUTOANTIBODIES TO A NOVEL PEPTIDE UH-RA.1 ARE ASSOCIATED WITH DISEASE REMISSION IN RHEUMATOID ARTHRITIS

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Background: Autoantibodies have been found in the majority of RA patients and are used clinically as diagnostic and prognostic serum biomarkers. Before truly personalised medicine is available for RA patients, markers that can predict a patient's response to different therapeutic regimens have to be found. In this study, we further characterise autoantibodies to the novel University of Hasselt

(UH) peptide UH-RA.1, which have predictive value for an early response to therapy. Antibody reactivity to UH-RA.1 was found in 7%–10% of early RA patients. Presence of anti-UH-RA.1 antibodies in baseline samples from the Leiden Early Arthritis Clinic (EAC) cohort (n=600) appeared to be related to a better outcome as 37% of the antibody-positive group vs 21% of the antibody-negative group reached sustained DMARD-free remission (p=0.016) [1].

Objectives: Our aim is to test the relation between antibody reactivity against UH-RA.1 peptide and early disease remission in baseline RA samples from the CareRA cohort.

Methods: Using a custom peptide enzyme-linked immunosorbent assay, the presence of anti-UH-RA.1 antibodies was investigated in the well characterised CareRA cohort [2]. Cut-off for seropositivity was defined by 2 × SD above the mean antibody level of the healthy control group [1]. In the CareRA trial, different treatment regimens consisting of synthetic DMARDs combined with a step down glucocorticoid treatment, were studied. We used 223 baseline RA samples, collected before the start of treatment and early disease remission was defined as a DAS28 (CRP) <2.6 at week 16.

Results: Antibodies to UH-RA.1 were found in 5% of the baseline samples from the CareRA cohort. Presence of anti-UH-RA.1 antibodies did not seem to be related to early disease remission in the CareRA cohort. Of the antibody positive group, 9/11 (82%) were in remission at week 16, while 152/212 (72%) of the antibody negative group reached early disease remission (p=0.37). However, in UH-RA.1 seropositive patients from the CareRA cohort, antibody levels were found to be significantly higher in baseline samples of patients that reached remission in week 16 (mean rank 120,51 vs 89,9, p=0.001).

Conclusions: In RA patients, presence of antibodies against UH-RA.1 peptide at baseline is related to sustained DMARD-free remission and high levels of antibodies against UH-RA.1 were correlated with early remission after combination therapy consisting of classical synthetic DMARDs with a step down glucocorticoid treatment. In combination with other predictive markers, antibodies against UH-RA.1 peptide might therefore contribute to an improved early patient stratification and prediction of therapy response.

REFERENCES:

[1] De Winter, et al. Rheumatology (Oxford) 2016;55(8):1431–6.
[2] Verschueren P, et al. Ann Rheum Dis 2015;74:27–34.

Disclosure of Interest: None declared

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AB0293 FREQUENCY OF JOINT EROSIONS IN PATIENTS WITH RHEUMATOID ARTHRITIS, TREATED WITH BIOLOGICS IN RELATION TO RF AND ACPA SEROLOGY IN REAL LIFE

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Background: Rheumatoid arthritis (RA) is a chronic auto-immune disease, characterised by a symmetric polysynovitis and extra-articular manifestations. In 70% to 80% of patients with RA, serologic factors like Rheumatoid Factor (RF) and Anti-Citrullinated Protein Antibodies (ACPA) are present. Early recognition and treatment with disease-modifying antirheumatic drugs (DMARDs) is important in achieving control of disease and prevention of joint destruction. If it is untreated or unresponsive to therapy, inflammation destroys cartilage and bone, resulting in irreversible bone erosions. The 2016 EULAR recommendations for the management of RA stipulate that MTX is recommended as first-line strategy plus short-term GC, aiming at >50% improvement within 3 and target attainment within 6 months. If this fails, stratification is recommended. Without unfavourable prognostic markers, switching to, or adding another csDMARDs (plus short-term GC) is suggested. In the presence of unfavourable prognostic markers (autoantibodies, high disease activity, early erosions, failure of 2 csDMARDs), any bDMARD or Jak-inhibitor should be added to the csDMARD.

Objectives: To determine an association between serology status and prevalence of radiographic erosions, the use of biologics and prevalence of erosions, and serology status and use of biologics.

Methods: Data were obtained from the electronic patient files of patients who visited the department of Rheumatology at the University Hospital of Ghent (Belgium) between October and December 2016. Patient characteristics with respect to diagnosis, treatment, serology status and erosion status were collected. The data has been statistically analysed using χ^2;-, Fisher's exact, Kolmogorov-Smirnov en Kruskal-Wallis tests with α=0,05.

Results: A total of 2001 consultations were analysed, of which 358 patients were identified with RA. 353 patients were included, of which 116 men (32,9%) and 237 women (67,1%). The mean age of the study population was 62 years with a mean age of 52 years at diagnosis. Of these patients, 36,0%, 49,5% and 29,8% were positive for respectively RF, ACPA and RF +ACPA. 38% has ever been treated with a biologic, whereas 26,9% is currently treated with a biologic. 37,4% of the patients showed erosions on a recent radiograph of hands or feet. A positive ACPA serology (p<0,0001. OR=1,87), a positive RF serology (p=0010. OR=2,26) and a positive RF +ACPA serology (p=0007. OR=2,74) was more observed in patients with radiographic erosions. A significant difference in erosions was seen between patients treated with or without biologicals (p<0,0001. OR=3,45). Biologicals were prescribed more in patients with positive ACPA serology (p<0,0001. OR=3,92) and in patients with positive RF serology (p=0001. OR=2,67).

Conclusions: In a *consecutive* real life cohort of patients with RA, positive ACPA and/or RF status were associated with an increased risk to develop bone erosions in affected joints. Positive serology was also linked to biologic therapies. Patients who received biological treatment were more prone to have erosions.

Disclosure of Interest: None declared

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AB0294 TREATMENT MODES IN RHEUMATOID ARTHRITIS: FACTORS INFLUENCING PATIENT PREFERENCE

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Background: Little in-depth qualitative research has been conducted to investigate reasons for rheumatoid arthritis (RA) patient (pt) preferences for different modes of treatment administration. An understanding of pt preference can help physicians personalise therapy recommendations.

Objectives: To describe potential RA pt preferences for RA treatment modes and reasons for these preferences.

Methods: Pt demographic information was obtained at screening alongside qualitative interviews conducted using a semi-structured interview guide among adult RA pts in the US, UK, France, Germany, Italy, Spain, Switzerland and Brazil who were currently taking a DMARD (biologic or non-biologic). A 100-point allocation task was used to evaluate the strength of preference (0–100; 100=strong) across 4 treatment modes: oral (OR; once daily), self-injection (SI; weekly), clinic-injection (CI; weekly) and infusion (INF; monthly). Transcripts were developed in English; ATLAS.ti software (v7.5) was used for qualitative coding and analysis.

Results: 100 interviews (30 US; 10 in each of 7 other countries) were conducted (female: 75.0%; mean age: 53.9 years; mean time since diagnosis: 11.6 years). Current RA medication mode included OR (60.0%), injection (57.0%) and INF (14.0%); 79.0% and 37.0% of pts had experience with injection and INF medications, respectively; 31.0% of pts were taking a combination of biologic and non-biologic DMARDs. Among the 4 treatment modes, OR was allocated the highest mean (standard deviation [SD]) preference points (47.3 [33.1]) and the greatest percentage of pts with a 1st choice rank (57.0%); this was followed by SI (29.7 [27.7]; 29.0%), INF (15.4 [24.6]; 16.0%) and CI (7.5 [14.1]; 2.0%). Preferences by country suggested that the mean points allocated to OR were greater in the US vs other countries. Across all pts and treatment modes, 56.0% of pts had a 'strong' 1st choice preference (ie, a pt allocation ≥the mean pts across the 1st ranked choices [70]); of these pts, the majority chose OR (62.5%; SI: 23.2%; INF: 10.7%; CI: 3.6%). Speed of administration was among the most common reasons for choosing OR or SI as a 1st choice, together with ease of administration (OR) and frequency of dosing (SI; table 1). Difficulty remembering was the most common reason for not choosing OR and avoidance of pain was the most common reason for not choosing SI as a 1st choice.

Conclusions: More pts preferred OR as an RA treatment mode, followed by SI. Rationales for preference included ease of use, concerns about drug interactions, dosing frequency, feelings of control and avoidance of pain and needles. While 56.0% of pts felt strongly about their 1st choice preference, nearly half did not and may be receptive to and benefit from discussions with their healthcare professional and/or pt support groups about RA treatment mode options.