FRI0031

CHANGE IN FUNCTIONAL DISABILITY IN ACPA-POSITIVE ARTHRALGIA PATIENTS PRIOR TO PROGRESSION TO INFLAMMATORY ARTHRITIS

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Background: Only one study¹ has assessed functional limitation in the pre-clinical phase of rheumatoid arthritis. Finding that functional limitations already exist during the symptomatic pre-arthritis phase. It is unclear if patient reported outcomes (PROs) are associated with progression to inflammatory arthritis (IA).

Objectives: To assess baseline and change in PROs in the lead up to progression to IA and its association with progression to IA.

Methods: From June 2008 to August 2016, 205 CCP positive patients without clinical synovitis were observed 3 monthly for 12 months and then as clinically indicated. The end point was development of IA within 12 months. PROs including HAQ, fatigue VAS, disease activity (DA) VAS and pain VAS were recorded at each visit. Cox regression was used to assess the association of each PRO at baseline with progression, then latent growth curves (LGC) were constructed to model change in PRO over time. The LGC were added as covariates in the cox regression models to determine whether changes in PROs over 12 months were associated with progression.

Results: 204 anti-CCP positive cases were included (one case excluded as had only baseline data). Of these, 50 developed IA within 12 months. Estimated mean baseline HAQ was 0.53 (Standard Error, SE 0.04) and mean increase in HAQ 0.06 per 12 months (SE 0.04). Mean baseline fatigue and pain VAS were 32 mm and 28 mm, respectively (SE 1.8 and 1.6, respectively). Mean increases in fatigue and pain per 12 months were 3.9 mm (SE 2.6) and 3.5 mm (SE 2.1), respectively. Table 1 shows how hazard ratios for progression IA relate to baseline and change in HAQ and VAS. Hazards for progression to IA were increased with greater baseline fatigue VAS, and greater rate of increase in reported functional impairment, fatigue and pain.

Abstract FRI0031 – Table 1. Hazards for progression to inflammatory arthritis in relation to reported baseline and changes in function, fatigue and pain

	HR for progression to IA	95% CI	p
Covariate at baseline			
HAQ	1.38	(0.95–3.38)	0.070
Fatigue	1.01	(1.01–1.04)	0.003
Pain	1.01	(0.99–1.03)	0.434
Rate of change in covariate over 12 months			
HAQ	2.07	(1.81–31.34)	0.005
Fatigue	1.01	(1.01–1.07)	0.002
Pain	1.03	(1.02–1.08)	<0.001

CI, confidence interval; IA, inflammatory arthritis; HAQ, Health Assessment Questionnaire; HR, hazard ratio; p, (statistical) probability. Each covariate was included in a separate model; all were controlled for age and gender.

Conclusions: Greater rates of increase in HAQ, fatigue and pain VAS were associated with small, but statistically significant increases in hazards of progression. Therefore, patient reported measures may be helpful for risk stratification in patients with positive anti-CCP.

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FRI0032

ROLE OF ULTRASOUND IN ASSESSING DISEASE ACTIVITY IN PATIENTS WITH EARLY RHEUMATOID ARTHRITIS TREATED BY TWO TREAT-TO-TARGET STRATEGIES

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Background: Ultrasound (US) is a sensitive tool for detecting joints and tendon inflammation in patients with rheumatoid arthritis (RA). Subclinical inflammation is often found in patients with RA in composite score remission. We hypothesise that achieving the ACR/EULAR remission, which reflects a more rigorous control of disease inflammation than the DAS28-based definition, may be associated with less subclinical inflammation detected by US.

Objectives: To determine the effect of two treat-to-target (T2T) strategies aiming at the Simplified Disease Activity Index (SDAI) remission (SDAI ≤ 3.3) and DAS28 remission (DAS28-CRP < 2.6) on US outcomes in patients with early RA.

Methods: This is a sub-study of the Hong Kong Early RA Vascular Study.¹ Fifty-five patients were randomised to receive 1 year of tight-control treatment with an aim to achieve either SDAI ≤ 3.3 (group 1, n=21) or DAS28 < 2.6 (group 2, n=34). Both wrists, 1 st to 5th metacarpophalangeal joints, 2nd to 5th proximal interphalangeal joints and the thumb inter-phalangeal joints were evaluated for synovial hypertrophy (SH) by greyscale and power Doppler (PD), scored 0–3. Global indexes for SH and PD (SH- and PD- index) and the Global OMERACT-EULAR Synovitis Score (GLOESS) were calculated. A post-hoc analysis was performed to ascertain whether achieving sustained DAS28 remission (SDR) from month 6 to 12 could improve the US outcomes which included the change in SH- and PD-index, and GLOESS between baseline and 1 year.

Results: At baseline, SH and PD signal were found at both wrists and the MCP joints (SH: 79.9%; PD: 82.6%) with moderate grade (SH: 58.3%; PD: 65.8%). Both groups demonstrated significant improvements in clinical and laboratory markers of inflammation. The SH-index, PD-index and GLOESS (median [IQR]: change: group 1: –8 [–22,–4], –6 [–15,–4], –8 [–22,–4]; group 2: –7 [–11,–3], –5 [–8,–2], –7 [–11,–3]) also improved in both groups to a similar extent (p=0.224, 0.297, 0.306 respectively). In view of the lack of differences in all outcomes in both groups, the results of all 55 patients were combined for a post-hoc analysis. Twenty-four patients achieved SDR from month 6 to month 12. After 12 months, the SDR group had a significantly greater improvement in swollen joint count, erythrocyte sedimentation rate, pain, patient global assessment, physician global assessment and Health Assessment Questionnaire. Significant improvements in SH-index, PD-index and GLOESS (–8 [–16,–5], –6.5 [–14,–5], –8 [–16,–6]) were observed in the SDR group and the non-SDR group (–6 [–11,–2], –4 [–10, 0], –6 [–11,–3]). Nonetheless, the SDR group had a significantly greater improvement in the PD-index (p=0.017) compared to that in the non-SDR group; while the SH-index (p=0.179) and GLOESS (p=0.094) were similar between the two groups.

Conclusions: In early RA, a SDAI remission-driven T2T strategy led to more intensive treatment but was not associated with significantly better clinical or US outcomes than a DAS28-driven strategy. However, patients who achieved SDR had a significantly greater clinical improvement and reduction in PD index compared to those who could not achieve SDR.

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