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SAT0109

ULTRASONIC EVALUATION OF JOINT INVOLVEMENT IN ESTABLISHED RA: ACTIVE SYNOVITIS PREDICTS SUSTAINED TREATMENT CHANGES IN SUSPECTED BIOLOGIC FAILURE

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Background: EULAR guidelines recommend treatment of rheumatoid arthritis (RA) targeted to remission.¹ Biologic switching should be considered where there is at least moderate disease activity (DAS28 >3.2). The role of ultrasound (US) in guiding treatment is perhaps less clear. D'Agostino et al have proposed a novel algorithm based on current best evidence.²

Objectives: We present a case series of 30 RA patients with perceived biologic failure. By applying the algorithm to this group of patients we reviewed the impact of musculoskeletal ultrasound findings on treatment changes when compared to DAS28 assessment alone.

Methods: All patients had US of the Backhaus 7 joints on the most affected side, and any additional symptomatic joints. A global OMERACT-EULAR synovitis score (GLOESS) was calculated for each patient.³ DAS28 was calculated at the time of US, and clinician opinion to continue or switch biologic was documented pre and post US. Patient notes were reviewed at 6 months to assess whether treatment changes were sustained.

Results: 26 patients had DAS28 >3.2. Of these, 10 were found to have GLOESS >6 and subsequently switched biologic therapy. 4 patients had DAS28 <3.2, despite clinical suspicion of persistent inflammatory disease. Of these patients, 2 were found to have GLOESS >6, and subsequently switched to an alternative biologic. At 6 months 20/24 patient's management remained consistent with previous US findings, 2 patients escalated treatment despite a previously negative US, 1 patient declined escalation (although US showed synovitis), 1 patient switched due to intolerance and 6 were lost to follow-up.

Table 1. Proposed treatment outcome (switch biologics) in symptomatic patients based on clinician opinion, DAS28 and US findings

	Clinician opinion pre-US	DAS28 at time of US	Clinician opinion post-US
Switch Biologics	23	26 (DAS28 >3.2)	12 (GLOESS>6) ^a
Don't Switch Biologics	7	4 (DAS28 <3.2)	18 (GLOESS<6)
Total	30	30	30
P value			<0.01^b, <0.01^c

^a 1 patient GLOESS <6 with severe tenosynovitis ^b Fisher's Exact test ^c Chi squared

Conclusions: US significantly reduced the need to switch treatment in this cohort of patients compared with DAS28. Longitudinal follow up supports the validity of US to determine those with active disease whilst on a biologic. The use of US may prevent over-treatment, and subsequently reduce morbidity and financial cost. Further work is needed to evaluate the clinical impact and cost effectiveness of routine US prior considering a change in biologic therapy.

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SAT0110

TRAJECTORIES OF FUNCTIONAL DISABILITY IN PATIENTS WITH EARLY INFLAMMATORY POLYARTHRITIS AND MODERATE DISEASE ACTIVITY: RESULTS FROM THE EARLY RHEUMATOID ARTHRITIS NETWORK AND NORFOLK ARTHRITIS REGISTER

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Background: A large group of patients with inflammatory polyarthritis (IP), and its subset rheumatoid arthritis (RA), have moderate disease activity, despite disease modifying therapy. Identifying patients with moderate disease who are likely to have subsequent high disability may prompt different treatment strategies for these patients.

Objectives: To identify common trajectories of disability progression in patients with moderate disease in two large prospective observational studies.

Methods: The Early Rheumatoid Arthritis Network (ERAN) recruited 1236 patients with RA (<36 months symptoms) from 23 centres in England from 2002-11. The Norfolk Arthritis Register (NOAR) recruited 1054 IP patients (<24 months symptoms) from Norfolk, England, from 2000-8. At baseline and subsequent follow-ups, functional disability was assessed using the Health Assessment Questionnaire (HAQ). Included patients scored ≥3.2 and <5.1 on the Disease Activity Score (DAS28) at either baseline, year 1 or year 2, and had previously received csDMARDs (N_{ERAN}=605; N_{NOAR}=407). Latent class growth models (LCGMs) were used to identify HAQ trajectories independently in each cohort. Age, sex, fulfilment of ACR RA criteria, symptom duration, DMARDs at baseline, and baseline