

Medical or Research Professionals/Clinicians

Topic area: Clinical topics by area of research

Specific topic: 31. Diagnostics and imaging procedures

EULAR14-SCIE-4440

A SIGNIFICANT PROPORTION OF PATIENTS WITH NEWLY DIAGNOSED AND ESTABLISHED INFLAMMATORY ARTHRITIS HAVE POSITIVE DOPPLER SIGNAL IN THEIR HAND JOINTS IN THE CONTEXT OF NORMAL C-REACTIVE PROTEIN LEVELS

Robert Clarke ¹Jessica Manson ¹Coziana Ciurtin ^{1,*}

¹Rheumatology, UNIVERSITY COLLEGE LONDON, London, United Kingdom

My abstract has been or will be presented at a scientific meeting during a 12 months period prior to EULAR 2014:

No

Is the first author applying for a travel bursary?: Yes

Is the first author of this abstract an undergraduate medical student?: Yes

Background: Ultrasound (US) assessment of small joints is a well-established method of investigation in inflammatory arthritis. Previous data suggest that there is a poor correlation with clinical examination, and has proved that US is useful in detecting subclinical inflammation (1).

Objectives: Our aim was to establish the proportion of inflammatory arthritis (IA) patients (newly diagnosed or established) with active synovitis detected by US in the context of normal CRP.

Methods: We conducted a real life study in patients with IA using a standardised US examination of 22 hand joints. We received 276 referrals between February and August 2013 and we assessed these patients for evidence of active synovitis based on the presence of Doppler signal. There were 108 patients with established rheumatoid arthritis (RA), 93 were referred for the clinical suspicion of inflammatory arthritis (IA), and the rest had other diagnoses. All the patients reported inflammatory symptoms in their hands and their clinical examination was equivocal. We report data on the two largest groups, the RA and IA groups, using descriptive statistics (Origin 6.0). $P < 0.05$ was considered statistically significant.

Results: We found positive Doppler signal in 143 patients, and 76 (53.14%) of these have normal CRP level, as measured 2.8 +/-1.6 weeks prior or post US examination. There were 41 RA in this group (from a total of 83 found with positive Doppler signal) and their disease duration was 12+/-10.2 years. Of these, 66% had positive rheumatoid factor (RF) and 63% had positive anti citrullinated peptide antibodies (ACPA). There were 23 patients referred for the suspicion of IA with positive Doppler signal and normal CRP out of 52 found with active synovitis, having a median duration of symptoms of 6.8 months+/-1.9. However, the proportion of seropositive patients – 21.7% for RF and 17.3% for ACPA - was significantly decreased compared to the RA group ($p = 0.001$). The median number of joints with Doppler signal was 3+/-0.54 in the RA group and 3+/- 0.31 in the IA group ($p=0.12$). The number of tender joints (out of 28) was 10.6+/-8.6 and 9.2+/- 7.5 in the RA and IA groups respectively ($p=0.07$). RA patients had significantly increased number of swollen joints (5.21+/-3.01 vs. 3.95+/-3.2, $p=0.03$), but the IA group of patients reported a significantly lower global health state than the RA patients (66.25+/- 22 vs. 50.5+/- 33.2, $p= 0.02$). The number of clinically assessed swollen joints correlated poorly with the presence of Doppler signal in RA and IA patients ($r=0.27$ and $r=0.42$, respectively).

Conclusions: Normal CRP levels could be found in patients with active joint inflammation in similar proportions in patients with established RA (49.3%) and newly diagnosed with IA (44.2%). However, in the RA group there were more swollen joints that did not correlate with the presence of Doppler signal. The newly diagnosed patients with IA reported a lower health state, despite objective evidence of similar numbers of inflamed joints as the RA patients. US examination of hands is a suitable tool for active synovitis detection in symptomatic patients with normal CRP levels and equivocal clinical evidence of joint swellings.

References: Saleem, B et al., Arthritis Rheum. 2009 Jul;60(7):1915-22.

Disclosure of Interest: None declared