50% OF PATIENTS WITH EARLY ONSET OF SYMPTOMS OF INFLAMMATORY HAND PAIN HAVE SYNOVITIS CONFIRMED BY ULTRASONOGRAPHY DESPITE NO OBVIOUS CLINICAL FEATURES – RESULTS FROM A COHORT STUDY

C. Ciurtin, G. Murphy, J. Manson, M. Ehrenstein. Rheumatology, University College London, London, United Kingdom

Background: The diagnosis of an inflammatory arthropathy (IA) in the early stage of disease can be challenging. While serological markers such as Rheumatoid Factor (RF) and anti-cyclic citrullinated peptide (CCP) can be helpful, they do not have sufficient predictive ability to confirm or out rule a diagnosis of IA.
Objectives: We sought to describe the findings on High Resolution ultrasonography (HRUS) of the hands and wrists in a cohort of patients with recent onset suspected IA and no definite clinical synovitis.
Methods: All patients with suspected IA and symptoms <12months seen in our ultrasound clinic were identified. Each patient had previously been reviewed by a consultant rheumatologist. Despite clinical assessment a definitive diagnosis of IA was not possible. Demographic characteristics, symptom duration, RF/CCP status and inflammatory markers were recorded. Findings from HRUS performed by a trained rheumatologist were recorded and included the semi-quantitative assessment of synovial hypertrophy and power Doppler (PD) activity in addition to the presence/absence of erosions and osteophytes. Findings were compared between groups ultimately diagnosed with IA and the non-IA cohort.
Results: 40 relevant patients were identified. 87.5% were female and the average age was 45.5 years. 25% were seropositive for RF, 25% for anti-CCP, 5% for ANA and 7.5% had concomitant psoriasis. 50% were ultimately diagnosed with an IA (75% rheumatoid arthritis, 15% undifferentiated IA and 10% psoriatic arthritis). The median CRP (4.7 v 1.15mg/dl, p=0.049) and ESR(18.5 v 7.5mm/h, p=0.006) was significantly higher in those with IA. The median number of joints with mild synovial hypertrophy was higher in those with IA (6 vs. 0, p=0.0001) with a trend towards greater moderate (median 3 vs. 0, p=0.07) and severe synovial hypertrophy (median 2 vs.0, p=0.055) in the inflammatory group. The median number of joints with PD activity (1.0 vs. 0, p=0.01) was significantly higher in those with IA as was the number of joints with erosions (4 vs. 0, p=0.0001) and grade 2 effusions (1.5 vs. 0, p=0.013). PD activity was present in at least one joint of 60% of patients with IA and in no patient with a non-IA. There was no significant difference in the median number of osteophytes.
Conclusions: It is noteworthy that 50% of patients referred with a suspected IA ultimately were diagnosed with an IA, with the majority of the remainder diagnosed with osteoarthritis, both groups having no obvious clinical synovitis. This highlights the difficulty in deciphering true IA by clinical findings alone and the recognised role of HRUS in detecting subtle inflammatory changes (1). The presence on US of PD activity and erosive change was found to be significantly greater in the IA cohort, thus we support the more widespread availability and use of HRUS in routine clinical practice for patients with early inflammatory symptoms, even in the absence of definite clinical synovitis, in order to facilitate earlier diagnosis and timely treatment.
References:
D.F. Ten Cate et al., Role of ultrasonography in diagnosing early rheumatoid arthritis and remission of rheumatoid arthritis - a systematic review of the literature. Arthritis Res Ther. 2013 Jan 8;15(1):