272. CAN NORMAL ULTRASOUND SCANS EXCLUDE THE DIAGNOSIS OF INFLAMMATORY ARTHRITIS?

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Background: US plays a vital role in diagnosis of early inflammatory arthritis (IA). It has been proven superior to clinical examination in the detection of joint inflammation. Nevertheless clinical judgment still plays an important role. When ultrasound findings are normal or indeterminate of synovitis it is worthwhile to know whether the patients would subsequently be diagnosed with IA.

Methods: This is a pilot, retrospective cohort study undertaken in patients who had an ultrasound scan for diagnosis of IA, at Derriford Hospital from January to June 2012. Primary outcome was clinician confirmation of absence or presence of IA within 12 months of the scan. Patients who had ultrasound scan of hands, feet, wrists and ankles, requested by rheumatologists in first 6 months of 2012 were determined from the Radiology Department database. US findings (as determined by an experienced musculoskeletal radiologist) were entered (by SW) as normal, effusion, gray-scale synovitis (GS) and hypervascular synovitis (HS). The patient group was split into high and low clinical suspicion groups (CSG) according to criteria formulated in consensus with all consultants in the rheumatology department. Clinical suspicion was determined by interrogation of clinic letters, blinded to the ultrasound findings (by LR). Data were then collected retrospectively to see whether the patients were clinically diagnosed and treated for IA within 12 months of their scan. Data were analysed as percentages diagnosed with IA with respect to each ultrasound finding and clinical suspicion group.

Results: There were 85 total scans with 43 being normal; 21 with effusions, eight with GS and 13 with HS. Seven (16.3%) patients with normal ultrasound were diagnosed with IA within 12 months of the scan. Four (25%) patients in high CSG with normal ultrasound were diagnosed with IA while three (11.1%) in low CSG with normal ultrasound had the diagnosis of IA. Six (28%) patients who had effusion and seven (37.5%) who had GS were diagnosed with IA within 1 year. In high CSG with effusions two (33.3%) patients had the diagnosis of IA while there were four (26.6%) diagnosed in low CSG with effusions. Four (80%) in high CSG with GS and three (100%) in low CSG with GS were diagnosed with IA respectively. All patients with HS were diagnosed with IA except two who were lost to follow-up.

Conclusion: Even though ultrasound is a sensitive tool for diagnosis, this pilot study suggests that normal scans cannot completely exclude the diagnosis of inflammatory arthritis. Therefore clinical review with repeat scans would be useful especially in the context of a high clinical suspicion.

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