AB1139 CONTRIBUTION OF CERVICAL SPINE IMAGING IN RHEUMATOID ARTHRITIS

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Background: Cervical involvement in rheumatoid arthritis (RA) ranks third after erosive lesions of the hands and feet. The evolution is unpredictable and imposes regular radio-clinical surveillance because of the frequency of asymptomatic forms and of its seriousness, especially the neurological involvement could threaten functional and vital prognosis.

Objectives: To specify the contribution of imaging means in the diagnosis of rheumatoid cervical involvement and perform a comparison of these different imaging means to establish an exploration strategy.

Methods: This is a cross-sectional and descriptive retrospective study of 55 patients with RA which evolves since more than two years. All patients were explored by standard radiographs. CT and/or cervical MRI were performed according to the radiological findings.

Results: The mean age of the patients was 57.55 ± 13.59 years with a female predominance (72.7%). Functional signs were dominated by neck pain (87.3%). The stiffness of the cervical spine was the most recovered physical sign (69.1%). In imaging, cervical involvement was dominated by atlanto-axoid subluxations (AAS) in 50.9% and pannus of C1-C2 (14.54%). Among AAS, anterior AAS was the most common (40%) followed by vertical AAS (7.27%) then lateral and rotary (both in 1.81%). Subaxial subluxation was found in 14.54% of cases. Standard radiographs detected 38.2% of previous AAS versus 20% on MRI. CT allowed a better study of rotatory and lateral subluxations. MRI detected pannus of C1-C2 and assessed the neurological impact of the various cervical rheumatoid lesions.

Conclusion: Clinical examination alone remains insufficient in the evaluation of the rheumatoid cervical spine. Imaging has thus emerged as a key examination in exploration and therapeutic orientation. The standard radiography with its different incidences is the first-line examination. CT and MRI will be discussed as second-line. CT essentially detects atypical subluxations and bone lesions. MRI is the exam of choice for the study of pannus and neurological repercussions.

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AB1140 ROLE OF ULTRASOUND IN ASSESSMENT OF JOINT PAIN AMONG HEMO DIALYSIS PATIENTS

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Background: Few studies including limited number of patients assessed the rheumatologic effects of hemodialysis (HD) on joints using ultrasonography.

Joint ultrasound has been emerged as a cheap noninvasive tool for assessment of joint pain among HD patients. This was the aim of our study to make use of such tool in such life quality threatening complaints

Objectives: to determine the role of ultrasound in evaluation of joint pain and its causes among patients on regular HD

Methods: One hundred and four patients with end stage renal disease (ESRD) who were regular on HD three sessions per week four hours per session were subjected to history taking, complete physical examination stressing on musculoskeletal examination and ultrasonography of painful joints.

Results: Dialysis related arthropathy (DRA) was not the only cause of joint pain among HD patients but there were diverse causes in different joints. As regard affected joints, knee was the most affected one then came wrist, shoulder, ankle and elbow respectively.

As regard causes of joint pain, DRA was the commonest one then came osteoarthritis,

Nonspecific ultrasonographic findings and few cases showed normal ultrasonographic studies.

Conclusion: This study confirmed that joint pain in HD patients has diverse causes not DRA by necessity but other causes must be considered as well as multifactorial etiologies.

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AB1141 A SIMPLE CLINICAL SCORING TOOL CAN BE USED TO IMPROVE PATIENT SELECTION FOR ULTRASOUND IN DIAGNOSING EARLY INFLAMMATORY ARTHRITIS

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Background: Ultrasonography has been shown to be more sensitive than clinical examination in detecting clinical/subclinical synovitis and improving diagnostic certainty in early inflammatory arthritis (EIA). Local audit suggests increasing demand on ultrasound clinics to aid diagnosis in patients with suspected EIA therefore increasing waiting times. There is limited research to identify the patients most likely to benefit from an early ultrasound.

- Objectives:**
- (i) To evaluate the proportion of patients in whom an ultrasound resulted in a change in the pre- to post-scan diagnosis.
 - (ii) To devise a simple scoring tool to predict patients where an ultrasound may alter the diagnosis/outcome
 - (iii) To assess if such a scoring tool can be used prospectively in the clinical setting

Methods: We conducted a retrospective analysis of the electronic records of patients attending the rheumatology-led musculoskeletal ultrasound clinic for a diagnostic scan between January and September 2017. Data on pre-test diagnosis, ultrasound findings and post-scan diagnosis was obtained. Clinical data was used to devise a scoring tool to predict variation in pre and post-scan diagnosis. Prospective data was then collected to confirm the validity of this scoring tool.

Results: 200 patient records were reviewed. In 102 patients (51%), the post ultrasound scan diagnosis differed from the pre-scan diagnosis. Patients referred with polyarthralgia of uncertain cause (n=92) were the largest group in whom the post-scan diagnosis differed (64, 69.6%) as the scan was able to identify a diagnosis. Patients with a pre-scan diagnosis of osteoarthritis or fibromyalgia (n=48) were more likely to have no difference in post-scan diagnosis (40, 83.3%).

We generated a score for each patient with one point given to: duration (>6 weeks), (any)tender joints, (any)swollen joints, rheumatoid factor positive, anti-citrullinated protein antibody positive, C-reactive protein(>5mg/L), erythrocyte sedimentation(>age adjusted value), early morning stiffness(>30 minutes), or radiographic erosions. 39 patients scored 0-1, and 4 patients scored 7-9. In none of these categories did the ultrasound alter the diagnosis. Among patients with a score 2-6, the ultrasound altered overall diagnosis in 26% (n=157). Scores 5 and 6 demonstrated most variation between pre and post-scan diagnoses (45%).

We applied the score set prospectively and preliminary data indicates a similar distribution of results (data collection in progress).

Conclusion:

- 1. Ultrasound contributed to the overall diagnosis in over 50% of patients under investigation for EIA.

- 2. A simple clinical scoring tool can predict which patients the scan will make no difference to overall diagnosis.
- 3. Patients with scores in the middle range should be prioritised over those with very low or high scores.
- 4. This can be applied to improve patient selection and maximise the utility of ultrasound in EIA clinics.

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