

Poster presentation

Imaging in early-onset juvenile idiopathic arthritis: ultrasonography (US) and MRI favours conventional radiography in detecting early inflammatory changes in joints

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Background

Evaluating joint involvement in early-onset juvenile idiopathic arthritis (EO-JIA) in children ≤ 3 years is often a challenge for the clinician not experienced in assessing joints in children. Often the child is misleadingly found to be without any joint affection and conventional radiography, often used as first choice imaging, will be reported as normal.

In a five-year prospective follow-up study (US-MRI-Skejby protocol) we are investigating JIA joint pathologies expressed by US (synovitis, effusion, cartilage thickness, erosions) comparing them with MRI and conventional radiography findings in relation to JIA onset type, disease activity, -duration and treatment.

We present two cases of early-onset JIA from this study.

Materials and methods

Clinical examination, laboratory tests and US and MRI was obtained on the same examination day and X-ray within a 2 weeks period.

One girl (2 yrs) and one boy (2 1/2 yrs) with 2–6 months duration of symptoms before diagnosis. Both were ANA positive, CRP slightly elevated in case 1.

Results

Synovitis in affected joints was detected by US and MRI but not by X-ray.

Conclusion

US and MRI favours conventional radiography in detecting early inflammatory changes in smaller children with EO-JIA. Although detailed information is given by MRI, the use of MRI is limited to one anatomical region and the smaller children it cannot be performed without general anaesthesia. Thus, US seem most helpful in detecting early inflammatory changes in EO-JIA.