

EARLY DIAGNOSTICS OF DIFFERENT POLYARTHRITIS BY MRI

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Conventional radiography is not a sensitive method of assessing subtle soft tissue changes in the early stages of rheumatoid (RA) and psoriatic arthritis (PA). Studies of normal anatomy of wrist and small hand joints (1,4) indicate that MRI presents intra and paraarticular soft tissue structures clearly and noninvasively and enables the early diagnoses of different inflammatory rheumatic joint diseases (2,3). In our study patients with inflammatory joint diseases were studied.

Conventional radiographic changes of the small peripheral joints of the hands were compared to simultaneously recorded MRI. Our study included 19 patients; 12 patients with clinical symptoms suggestive of early and late RA and 7 of PA. Measurements were performed on 2,35 T MR scanner with FOV of 12-16cm. Multi slice - multi echo technique was used. T1 weighted images (TR=600 msec, TE=34 msec) and T2 weighted images (TR=2000 msec, TE=34,68 msec) were recorded. Images were obtained in coronal plane with slice thickness of 3 mm and with no interslice spacing. The time of the measurements was 20 minutes. The aims of our study were; first, to record inflammatory soft tissue changes as soon as possible, second, to evaluate diagnostically important differences between both diseases (RA and PA), and third, to confirm the eventual advantages of MRI over conventional radiography. In majority of patients including both inflammatory diseases MRI proved to be more sensitive than the conventional radiography. Owing to its excellent resolution it was possible to present subtle intra paraarticular soft tissue changes earlier. Pseudocysts and marginal erosions not observed with

conventional radiography were presented using MRI, as well. The early soft tissue changes differed in both diseases. In early PA paraarticular soft tissue swelling was not confined only to articular region and presented thickened collateral ligaments with intermediate signal intensity. In early RA it was confined only to articular capsule and probably represented pannus. MRI enabled clear differentiation between pseudocysts and marginal erosions. Signal intensity was higher in the cases of acute inflammation, probably due to edema and hyperemia. Within evident erosions of late RA, signal intensity was nonhomogenous, with central part having intermediate and peripheral low intensity. In conclusion our study proved MRI to be more efficient than conventional radiography not only from the standpoint of earlier diagnosis of RA and PA, but also as a method which reflects more accurately real patho-anatomic changes of inflamed joints.

References:

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