ORIGINAL ARTICLE

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Combined use of bone and bone marrow scintigraphies for the diagnosis of active sacroiliitis: A new approach

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Diagnosis of sacroiliitis (SI) with bone scintigraphy may involve difficulties even with a quantitative approach. The aim of this study was to evaluate the combined use of bone and bone marrow scintigraphies for the diagnosis of active sacroiliitis.

Thirty-one patients who were clinically suspected to have SI were included in the study. Bone and bone marrow scintigraphies were done after injections of 740 MBq of ^{99m}Tc-MDP (MDP) and 370 MBq of ^{99m}Tc-sulfur colloid (SC) respectively with a 2-day interval. Both visual and quantitative assessment of MDP uptake and visual assessment of SC uptake in sacroiliac joints were performed. Also sacroiliac joint radiographic findings for each patient were evaluated and graded from 0 to 4 according to the New York grading system. Patients were divided into 2 groups according to their x-ray findings (Group A: grade 0–2, Group B: grade 3–4).

A total of 14 patients (10 bilateral, 4 unilateral) had increased MDP uptake with decreased/normal SC uptake. Twelve of 14 patients had grade 0–2 radiographic changes while only 2 patients had grade 3–4 radiographic changes. Increased MDP uptake with decreased/normal SC uptake is the most common scintigraphic pattern seen in acute phase SI in which radiographic findings are generally found to be normal or slightly changed. In at least in 8 patients the decreased bone marrow uptake of SC was demonstrated, supporting the diagnosis.

Although our results did not reveal any significant superiority of bone marrow scintigraphy to bone scan for the detection of active sacroiliitis, combined use of bone and bone marrow scintigraphies was presented as an alternative method to characterize patients with active sacroiliitis.

Key words: sacroiliitis, bone scintigraphy, bone marrow scintigraphy, skeletal radiography