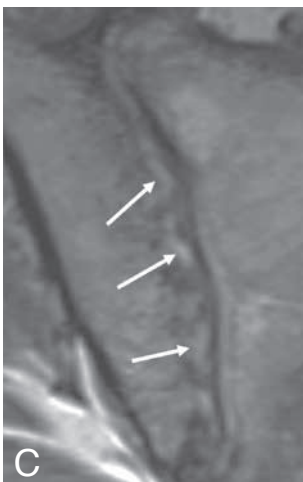
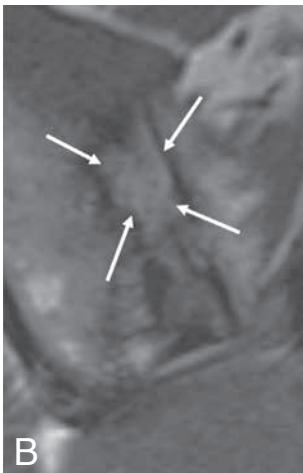
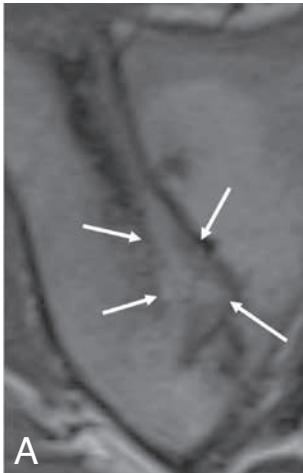


IMAGES IN CLINICAL RADIOLOGY



'Backfill' of the sacroiliac joint space in spondyloarthritis

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Three patients of the outpatient rheumatology clinic of our hospital with inflammatory type low back pain suggestive for spondyloarthritis were referred for MRI of the sacroiliac joints. MRI showed high T1 signal within the SI joint (arrows) in all three patients, filling the extended erosions of the iliac bone in two patients (Figs. A and B) whereas a more petechial appearance in the sacroiliac joint space was seen in the third patient (Fig. C). The diagnosis of 'backfill' of erosions and of the sacroiliac joint space in spondyloarthritis was made.

Comment

The prevalence of spondyloarthritis is estimated 1.5%. MRI of the sacroiliac joints is a cornerstone in the diagnosis, classification and follow-up of the disease since it depicts active inflammatory lesions long before radiographic changes become evident. Moreover, MRI may demonstrate late structural changes such as erosions, sclerosis, fat deposition and ankylosis.

As new bone formation is a hallmark of spondyloarthritis, ankylosis of the sacroiliac joint is the well-known end-stage of the disease. Ankylosis may occur at sites where new bone formation is present. Early new bone formation may be seen as high T1 signal within erosions or within the sacroiliac joint itself. As this tissue reossifies the eroded bone and fills the joint space, this high T1 signal is called 'backfill' and is very specific for the diagnosis of spondyloarthritis.

Reference

1. Weber U., et al.: Can erosions be reliably detected in patients with ankylosing spondylitis? A cross-sectional study. *Arthritis Res Ther*, 2012, 14: R124.

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