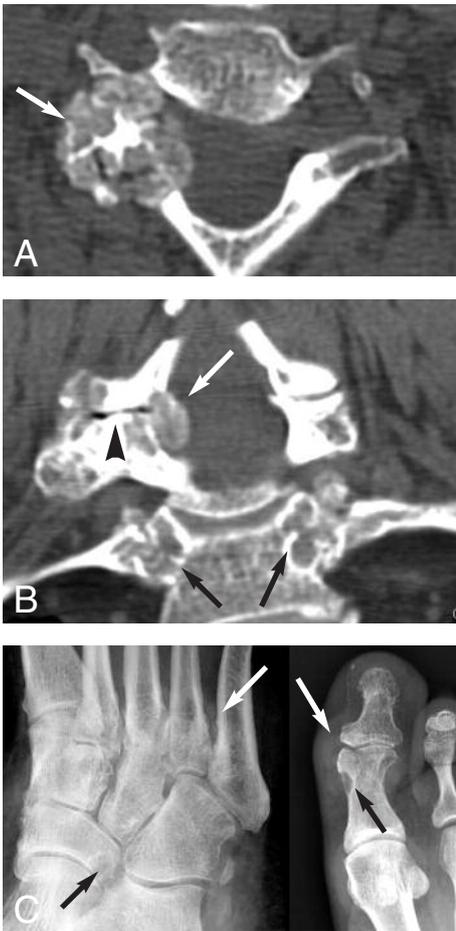


IMAGES IN CLINICAL RADIOLOGY



Articular tophaceous gout of the cervical spine: CT diagnosis

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A 62-year-old female was referred to the department of medical imaging with complaints of right cervico brachialgia. MDCT examination of the cervical spine was performed.

An exophytic pseudotumoral enlargement of the right posterior articular process of C6 was first suspected on the axial native scan (A, white arrow) but multiplanar reconstructions (B) clearly identified the articular nature of the process. Some relatively intact segments of the articular space were still present and vacuum phenomenon was clearly visible (black arrowhead) excluding an associated synovial effusion. Similar lesions were also found at the level of the costovertebral joints of T1 (black arrows).

Both sides of the joint space were symmetrically affected by deep massive well circumscribed erosions which were filled by spontaneously very dense material. Nodular deposits of the same dense material were also found outside the natural limits of bones and some exophytic bone projections had developed around these nodular deposits.

These findings, and particularly the dense material, were recognized as gouty arthritis with massive tophaceous deposits.

Laboratory tests revealed an elevated acid uric level at 104 mg/l (n.v 20-65 mg/l).

The patient was re-called for complementary X-ray. Plain films of the cervical spine (not illustrated) were rather uncontributive because the destructive lesion of the C6-C7 articular process was very difficult to characterize; moreover the erosions of the costovertebral joints were not detectable. Nevertheless the diagnosis of gout was reinforced by the presence of multiple typical erosions (black arrows) and tophi (white arrows) on the plain films of the feet (Fig. C).

Comment

Gout is a common metabolic disorder with well-defined clinical, biochemical and radiologic features. Gouty arthritis typically affects the distal joints of the appendicular skeleton.

Involvement of the axial skeleton is uncommon and tophaceous gout in the spine is rare. Most of reported cases presented with symptomatic cord or root compression.

All segments of the spine can be affected but lumbar spine is the commonest region involved followed by cervical and thoracic spine. The site of involvement can be the vertebral corpus, the intervertebral disk and discovertebral junction, the ligamentum flavum, the posterior intervertebral ligament but also the epidural space, intradural space, the pedicles, facet joint, filum terminale, and neural foramen.

Bone erosions by the urate crystal deposits and secondary proliferative bone changes are the prominent but no specific features of spinal gout on plain films.

In the spine, the differential diagnosis include discovertebral infection, epidural abscess, rheumatoid arthritis, metastatic disease, amyloid spondyloarthropathy, facet joint infection, synovial cysts, and calcified intradural tumour.

Most recent cases of tophaceous gout of the spine have been especially investigated with MR which represents now the usual imaging of spine, but numerous MR manifestations also lack of specificity. For example, on MR, gout tophi may exhibit isointense-to-hypointense signal on T1-weighted images but variable signal intensity on T2-weighted images has been reported.

On the contrary, though actually generally less often performed in first intension in spine disorders, CT appears very specific for the diagnosis of tophaceous gout; tophi appear indeed as very typical intra-articular and juxta-articular hyperdense massa of about 160-170 HU causing bony erosions with well-defined sclerotic margins.