CASE REPORT

Intra-articular osteoid osteoma of the distal humerus: a diagnostic challenge

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SUMMARY

Osteoid osteoma rarely presents in an intra-articular or juxta-articular location, leading to synovitis and flexion deformity, which can easily mislead the diagnosis. We present a case of an intra-articular osteoid osteoma of the distal humerus in a 19-year-old woman with pain and flexion deformity of the elbow. Although radiographs were normal, a nidus was demonstrated on CT scan. Appropriate surgical treatment provided relief to the patient and the diagnosis was confirmed on histopathology. Thus, an intra-articular osteoid osteoma may be mistaken for more common causes of synovitis unless there is an index of suspicion and appropriate imaging is undertaken.

BACKGROUND

Osteoid osteoma rarely presents in an intra-articular or juxta-articular location. Diagnosis is often missed or delayed. Presence of osteoid osteoma in an intra-articular location can lead to synovitis and flexion deformity, which can easily mislead the diagnosis. We present a case of an intra-articular osteoid osteoma of the distal humerus.

CASE PRESENTATION

A 19-year-old woman presented with dull aching pain in the right elbow since 1 year. The tenderness was present just above the olecranon fossa. Flexion deformity of the elbow (20°) was present. Range of motion was 20–110° and terminally painful.

INVESTIGATIONS

Radiographs were normal. Blood counts including erythrocyte sedimentation rate and C reactive protein were normal. CT scan showed a nidus at just above the olecranon fossa (figure 1).

DIFFERENTIAL DIAGNOSIS

Common causes of synovitis-like infection and inflammatory arthropathy were considered.

TREATMENT

A posterior approach with triceps reflection was used to expose the lesion surgically. Synovitis of the elbow was observed. The lesion was excised.

OUTCOME AND FOLLOW-UP

Histopathological examination confirmed the diagnosis of osteoid osteoma. The patient experienced

Figure 1 CT scan of the elbow revealed an ill-defined hypodense lesion just above the olecranon fossa.

Figure 2 Follow-up at 2 months—no restriction of elbow flexion and extension.

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To cite: Challawar NS, Shah HH. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2013-202943

immediate pain relief, and regained full elbow range of motion (figure 2).

DISCUSSION

Osteoid osteoma can be subperiosteal, cortical and cancellous.¹ The classical radiographic appearance of cortical osteoid osteoma is a radiolucent nidus with surrounding sclerosis or cortical thickening.^{1 2} In contrast, intra-articular osteoid osteoma

has little or no reactive sclerosis.^{3–5} For this reason, the radiolucent nidus is often overlooked on radiographs.¹ Endosteal sclerosis is occasionally found in intra-articular osteoid osteoma. However, periosteum is absent or sparse on the intra-articular surface; hence periosteal new bone is essentially absent.⁴

Contributors NSC was actively involved in the management of the patient and contributed to this case report.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

Learning points

- The clinical manifestations of an intra-articular osteoid osteoma are those of a synovitis.
- It may be mistaken for more common causes of synovitis unless there is an index of suspicion and appropriate imaging is undertaken.
- Intra-articular osteoid osteoma has little or no reactive sclerosis; hence, the radiolucent nidus is often overlooked on radiographs.

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