CASE PRESENTATION

ABSTRACT

A typical case of an osteoid osteoma is presented to illustrate the fact that although the diagnosis should present no real difficulties it normally takes months or years to make a definite diagnosis and institute treatment which in most cases is curative.

INTRODUCTION

Osteoid osteoma was first recognised as a distinct clinical entity by Jaffe in 1935. Although this lesion has been documented and studied is still difficult to diagnose early and usually only after months or years of annoying symptoms is the correct diagnosis established and definitive therapy instituted. The following case history illustrates a typical history of this not-infrequent bone tumour.

CASE REPORT

S.H. noted the insidious onset of pain just above her right ankle at the age of 12 years. There had been no history of trauma or participation in sports. The pain gradually increased and after four months, her parents requested medical evaluation. She was first seen by a Physician at the International Hospital of Bahrain 'Family Clinic' on 10 April 1982 who, on his physical examination, found only tenderness in the anterior ankle area and felt her symptoms were consistent with an 'extensor sprain'. She

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was treated with Voltaren — which did relieve her pain. Her pain progressed, however, and she was again seen on 1 June 1982 at which time an X-ray of the ankle was taken and reported to be 'within normal limits'. A 'sedimentation rate' was also performed on that date and was found to be 8. She was again felt to have 'tendonitis' and was continued on Voltaren on 8 June 1982, because of continued pain but a 'negative' physical examination, physical therapy was instituted, ie, heat and ultrasound, but no benefit was obtained. She was then seen by a Physician in London, who injected Cortisone into the painful area which aggravated her pain considerably for several days. This Physician recommended an exploratory operation which was refused by the family.

She returned to Bahrain and was seen in the Orthopaedic Department on 19 January 1983. At that time, both the child and her parents were quite distressed and anxious because of the chronicity of the symptoms and the lack of a diagnosis.

A detailed physical examination revealed a thin female who appeared to be in chronic distress. She exhibited a mild antalgic gait. Palpation revealed a localised area of exquisite tenderness in the cortex of the anterior tibia, approximately 2 cm., above the anklejoint. There was a slight amount of swelling but the extensor tendons and anterior tibialis tendon were not tender. No other objective findings were noted. X-ray examination of the distal tibia and ankle joint revealed a well-defined lytic area, involving the anterior cortex of the distal tibia, extending across the epiphysial line. There was a minimal amount of sclerosis. Retrospective examination of the X-ray taken on 1 June 1982 revealed a small area of increased density developing on the distal tibia anteriorly. All other laboratory data was normal.

In view of the findings noted on X-ray it was felt that an open biopsy was essential. This was performed on 6 February 1983, under general anaesthesia. Exposure of the involved area revealed a significant amount of adhesions, involving the tendon sheaths crossing the distal anterior tibia. The periosteum was thickened, oedematous and erythmatous. There was a well-defined area of tibial cortex which was quite thin and brittle. The underlying cancellous bone had a yellow hue and was 'chalky' in texture. The area of abnormal bone extended to but did not include the epiphysis. The entire area of involved bone was

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removed down to but not violating the epiphysis, which appeared to be involved in the X-ray, but grossly appeared normal. There was no evidence of frank pus, nor was a 'nidus' distinguishable. An antibiotic irrigation system was inserted as the diagnosis of osteomyelitis was seriously considered as the source of this patient's symptoms. Antibiotics had also been started the day prior to surgery.

The Pathological diagnosis was an osteoid osteoma.

DISCUSSION

Osteoid osteoma is a benign bone tumour that is not rare. Most cases are seen in children or young adults and although occuring in almost any bone it is by far more commonly seen in the femur and tibia.

The diagnosis in most cases is made only after many months of symptoms. The most typical symptom is pain which develops insidiously and is mild initially. It characteristically occurs at night and is significantly relieved by Aspirin. It is interesting to note that immobilisation does not relieve the pain. If present in the lower extremities, an antalgic gait and soft tissue atrophy can occur. If near a joint, the range of motion can be decreased and may be associated with a 'sympathetic' synovitis. Occasionally, swelling develops but rarely erytheme or local heat. Scoliosis may occur if the lesion is present in the spine or in a rib. The principal clinical findings is joint tenderness which can be exquisite.

The most valuable single diagnostic aid is the X-ray. The characteristic X-ray picture may however take several months to occur. The typical X-ray picture is that of a radiolucent nidus, surrounded by sclerosis. ('peri-focal reactive zone'). If the sclerosis is extensive, the nidus may be difficult to note. Tomograms may be helpful in such instances. If the lesion occurs near the cortex, periosteal elevation can occur. The clarity of the nidus visible on X-ray is dependant on such variables as — position of the nidus in bone, radiodensity of the nidus, extent of surrounding sclerosis and X-ray technique.

Microscopically, the tumour is composed of very cellular tissue in a vascular fibrous stroma. There are occasionally giant cells. Most characteristic, in the nidus is of course irregular deposition of osteoid tissue and trabeculae of newly formed bone. The osteoid may be in broad sheets or trabeculated undergoing calcification and osseous transformation. The osseous tissue may predominate over the osteoid tissue. Surrounding the nidus is hypertrophic bone formation, often with intervening fibrous stroma instead of marrow. There is no evidence of acute or chronic inflammation. Even if present for years, the nidus is rarely over one centimetre in greatest diameter.

As concerns the etiology, most authorities feel it is a benign neoplasm. There is no basis for an infectious etiology. It is possible however that the lesion represents 'repair' following trauma but with 'inhibition' producing excess bony calcification in an attempt to wall off the defect.

In the differential diagnosis, one must consider such entities as — solitary enostosis (medullary osteoma), bone abscess, metastatic lesion, fibrous cortical defect, non-ossifying fibroma, fibrous dysplasia, bone cysts, eosonophilic granuloma, enchondroma, and the very rare endosseous lipoma or neurogenous tumour of bone.

SUMMARY

The diagnosis of an osteoid osteoma should not be difficult assuming the condition is considered. As previously indicated, the diagnosis is typically not ascertained until the lesion has become chronic which produces anxiety on the part of the patient and family. Emphasis should be placed on careful history-taking and X-ray examination. Serial X-rays may be necessary at the lesion may not become apparent for several months. Keeping these facts in mind, the diagnosis of osteoid osteoma hopefully can be made early and thus prevent a prolonged course of pain and anxiety.

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