Osteochondroma Arising from Base of 1st Metacarpal Bone- A case report

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Abstract

Osteochondroma is the common benign tumor of bone. They probably are developmental malformations rather than true neoplasms and are thought to originate within the periosteum as small cartilaginous nodules. Osteochondromas may occur on any bone preformed in cartilage, but usually are found on the metaphysis of a long bone near the physis. The incidence of a solitary osteochondroma in the metacarpals is less than 1%.Here we present a case of solitary osteochondroma arising from base of 1st metacarpal in a 22 years old lady.

Key word: Osteochondroma, Benign bone tumor, Metacarpal bone.

Introduction

Osteochondromais the common benign tumor of bone. They probably are developmental malformations rather than true neoplasms and are thought to originate within the periosteum as small cartilaginous nodules. Osteochondromas may occur on any bone preformed in cartilage, but usually are found on the metaphysis of a long bone near the physis .The lesions consist of a bony mass, often in the form of a stalk, produced by progressive endochondral ossification of a growing cartilaginous cap. They are seen most often on the distal femur, the proximal tibia, and the proximal humerus. Many of these lesions cause no symptoms and are discovered incidentally. A similar lesion, subungualexostosis, may develop on a distal phalanx, especially of the great toe. Often there is a definite history of trauma. Excision is indicated when elevation of the nail produces pain. The history and location of the lesion distinguish it from a true osteochondroma.

It usually occurs in long tubular bones, which develop by endochondral ossification. It is seen less frequently in the hand, except in patients with multiple hereditary exostosis. Osteochondromas,when they occur in the hand, are seen commonly in the distal aspect of the proximal phalanx. Asolitary osteochondroma of the metacarpal is extremely rare; in Unni's series of 1,024 solitary osteochondromas, only 4 were in the metacarpals (0.39%)[1]

An osteochondroma like lesion of a small bone is much more likely to be a reactive process.

According to Mirra[2] the incidence of a solitary osteochondroma in the metacarpals is less than 1%. A review of the records pertaining to the past 21 years at the Hospital for Joint Diseases in New York did not show a single case of solitary osteochondroma in the hand but showed 10 cases of Nora's disease or bizarre parostealosteochondromatous proliferation (BPOP).[3]

B.JagannathKamathetal.[4]describedosteochondromaarising from 2nd metacarpal distal end near metacarpophalangeal joint after trauma in a 68 years old man who presented to hospital for fracture of femur and calcaneum. The patient was unaware about the osteochondroma so majority of the lesion are found incidentally while doing x-ray for other problems. The lesions identified could be the tip of iceberg where majority of the cases are not diagnosed.

Here we present a rare case of osteochondroma arising from base of 1st metacarpal base.

Case presentation

A 22 yrs lady, with pain in and around left hand noticed swelling around thenar area for 5 yrs. She gives history of pain on and off since then. Pain increased for 1.5 yrs. No history of trauma and fever. No similar masses in other parts of the body.

On examination she had bony swelling measuring 2.5 and 2.5 cm in dimension, around the thenar eminence extending anterolaterally. That was hard discrete, non tender arising from base of 1st metacarpal. Skin overlying the mass was free. Carpometacarpal joint of the thumb was mobile with no restriction of movement. Neurovascular status was within normal limit.

Clinical diagnosis of solitary osteochondroma was made.

X-ray (figure 1) showed bony growth from base of the first

metacarpal. The size was almost double the thickness of base of the metacarpal cauliflower like appearance making shadow proximally to the CMC joint. . Magnetic Resonance Imaging (Figure 2) was done to identify its extent and site of its origin. There was continuity of medullary cavity of host bone to the mass that confirmed the osteochondroma arising from the base of the 1st metacarpal (Figure 3).

Excisional biopsy was performed from anterolateral approach. Cartilage caped mass measuring 2.5 and 2.5 cm was excised from the metacarpal base with the help of drill and osteotome(Figure 4). The excised mass was sent for histopathologicalexamination that turned out to be osteochondroma. Postoperatively it was uneventful and patients was asymptomatic by three months (Figure 5 and 6).

Fig.1: Preop. X-ray

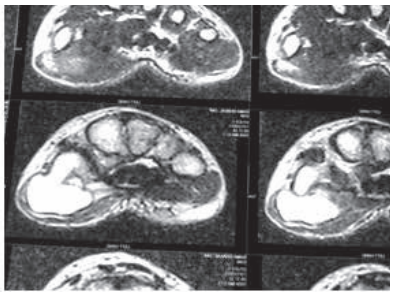

Fig.2: MRI finding

Fig.3: Intraoperative

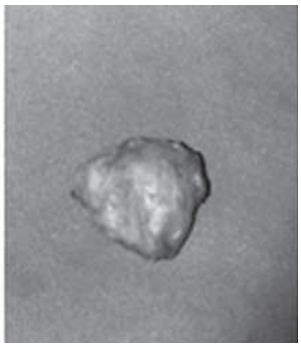

Fig.4: Excised mass

Fig.5: Post-operation after 3 months

Fig.6: Post-operation after 3 months

Discussion

Osteochondroma is the common benign tumor of bone. They probably are developmental malformations rather than true neoplasms and are thought to originate within the periosteum as small cartilaginous nodules. Osteochondromas may occur on any bone preformed in cartilage, but usually are found on the metaphysis of a long bone near the physis. The lesions consist of a bony mass, often in the form of a stalk, produced by progressive endochondral ossification of a growing cartilaginous cap. They are seen most often on the distal femur, the proximal tibia, and the proximal humerus. Many of these lesions cause no symptoms and are discovered incidentally. A similar lesion, subungualexostosis, may develop on a distal phalanx, especially of the great toe. Often there is a definite history of trauma. Excision is indicated when elevation of the nail produces pain. The history and location of the lesion distinguish it from a true osteochondroma.

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Osteochondroma is nearly always cured by complete excision. In a series 5 just over 2% of the tumor either were recurrent when the patient came to mayo clinic or recurred after excision at mayo clinic. These recurrent lesions required a second operation at intervals that

varied from 1 year to 26 years, although all recurrent lesions were benign. Second operation in these cases was curative. Failure to remove the entire cartilaginous cap or even its underlying periosteum probably is the basis for most recurrences.

Conflict of interest

The authors declare that there is no conflict of interest

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