



Osteochondroma of the talus: an unusual location

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Osteochondroma rarely affects talus although it is the most common primary bone tumor. We report a case of talar osteochondroma in a 6 year–old boy. There was no recurrence two years after the local resection of the lesion.

Key words: Osteochondroma; talus.

Osteochondroma is the most common primary bone tumor.^[1] This is not a true neoplasm but rather an abnormal growth of cartilaginous focus on the surface of the bone.^[2] The tumors are composed of mature bone with a cartilaginous cap and the lesion is in continuation with the medullar cavity of a long bone.^[3] Growth of the tumor depends on the patient's age, and the lesion often becomes quiescent after the closure of the growth plate.^[2] Osteochondromas slowly enlarge, creating insidious but progressive symptoms.^[3] Although they occurs most frequently at the ends of the long bones, the involvement of atypical locations such as the patella or tarsal region has also been reported.^[4-8] However, osteochondroma in the talus is very rare, and only a few cases have been reported.^[5-9]

We present a case of osteochondroma with an unusual talar location.

Case report

A six–year–old boy admitted to our outpatient clinic with a complaint of right ankle swelling (Figure 1). The patient reported pain while wearing shoes and running. The patient's family had first noticed minor swelling on the dorsum of the right ankle six months earlier. They stated that the swelling had gradually progressed. There was no family history of tumor, metabolic or rheumatic conditions or a prior history of trauma or infection. Detailed physical examination of the anterolateral aspect of the ankle revealed an immobile and hard mass with mild tenderness on palpation. The range of motion of the ankle was mildly restricted. Anteroposterior and lateral radiographs of the ankle revealed a bony mass located on the anterolateral aspect of the talus (Figure 2a, b). There was no epiphyseal abnormality of the right lower extremity on the radiographs. Magnetic reso-

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Fig. 1. Clinical photograph of our case. Note swelling on the anterolateral aspect of the ankle (black arrow). [Color figure can be viewed in the online issue, which is available at www.aott.org.tr]

nance imaging (MRI) showed that the mass located on the anterolateral aspect of the talus had a cartilage cap and medullar continuity between the bony mass and talus (Figure 2c, d). The mass was surgically removed. During the surgery the cartilaginous surface of the mass was found to be irregular (Figure 3). Pathological examination revealed typical findings for an osteochondroma; hyaline cartilage cap and underlying bone spicules, regularly arranged columns of cartilage cells, and embedded cartilage islands within the underlying bone (Figure 4a-c). Two years later, the patient was asymptomatic without recurrence.

Discussion

Osteochondroma is one of the most common benign bone tumors.^[1,6,9] It can occur in any bone that is formed from cartilage.^[9] Unusually, this neoplasm may arise in the soft tissues and is called extraskeletal osteochondroma.^[10] There are two types of osteochondroma: solitary and multiple.^[6,11] Solitary osteochondroma has been described as benign neoplasm, and hereditary multiple osteochondroma has been described as a hereditary neoplastic syndrome.^[11,12] Osteochondroma is either sessile or pedunculated.^[13-15] The incidence of malignant transformation has been reported as 1–2% and 1–25%, in



Fig. 3. Clinical photograph taken during the operation. Note the irregular surface of the cartilaginous cap. [Color figure can be viewed in the online issue, which is available at www.aott.org.tr]



Fig. 2. (a) Anteroposterior and (b) lateral radiographs of the ankle show a bony mass located on the anterolateral aspect of the talus (black arrows). (c) Coronal and (d) Sagittal plane magnetic resonance images show the mass located on the anterolateral aspect of the talus with a cartilaginous cap and a medullar continuity between the bony mass and talus.

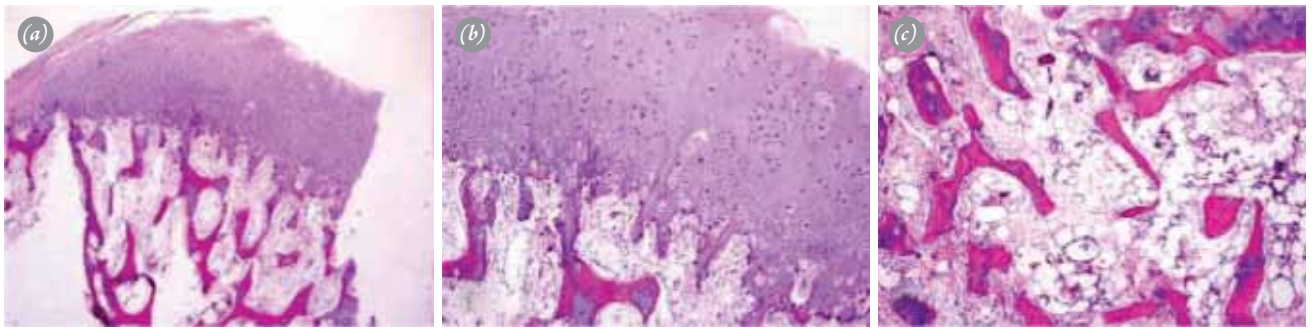


Fig. 4. (a) Hyaline cartilage cap and underlying bone spicules (HEx200). (b) Hyaline cartilage cap at higher magnification. Columns of cartilage cells are regularly arranged (HEx400). (c) Islands of cartilage can be observed embedded within the underlying bone. The intertrabecular spaces contain bone marrow (HEx400) (HE: hematoxylin and eosin). [Color figure can be viewed in the online issue, which is available at www.aott.org.tr]

solitary and hereditary osteochondromas, respectively.^[11] Growth of the tumor after puberty, the presence of pain, a cartilaginous cap thickness over 1 cm, extensive calcifications, irregularities within the cartilaginous mantle, and erosion or destruction of the adjacent bones may be the signs of malignant differentiation to a secondary chondrosarcoma.^[6]

The most common location for osteochondroma is the long bones at the metaphyseal region, and they usually grow away from the nearest joint.^[3,16] Unusual locations for osteochondroma includes the small bones of the hands and feet and the pelvis.^[6,14] Patellar involvement was also reported.^[4] The bones of the foot are less commonly involved, and even less commonly, the talus may be involved.^[2,7-9,17] Although solitary osteochondroma is usually asymptomatic, tumors in the talus may present with variable symptoms, including pain, swelling, painless mass, and limitation in the ankle movements.^[2,7-9,17,18] Osteochondroma of talus may also present as a loose body in the ankle joint.^[9,19]

Clinicians must be aware of Trevor disease (dysplasia epiphysealis hemimelica) when evaluating a mass growing around the ankle in children and adolescents.^[20-22] Trevor disease is a developmental abnormality of epiphyseal growth affecting one or more epiphyses.^[23,24] The localized form of the disease usually affects the bones of the hindfoot and ankle.^[20,24] It is impossible to differentiate Trevor disease from osteochondroma clinically and pathologically.^[17,25,26] The most important differential feature of Trevor disease is an epiphyseal lesion on radiological evaluation.^[25,26] The histopathological findings for Trevor disease are similar to benign osteochondroma.^[20,24,26]

There is no justification for the prophylactic excision of an asymptomatic osteochondroma.^[11] Excision is a successful form of treatment for symptomatic osteo-

chondroma with low morbidity, and symptoms will usually be relieved after the local resection.^[11] Surgical indications are pain, disturbance of growth, decreased range of motion, bursitis due to irritation, peduncle fracture and symptoms secondary to compression of peripheral nerves, tendons, vessels, or the spinal cord.^[11,27-30] Major complications and local recurrences are rare.^[11]

A limitation of our report is the lack of a computerized tomography evaluation, which might have shown the continuity of the lesion with the medullary cavity. However, it is also possible to observe this feature on MRI.

Osteochondroma rarely occurs in the region of the foot and ankle, and they should be included in the differential diagnosis of a growing mass around the ankle in children and adolescents. Extraperiosteal complete excision is crucial to prevent recurrence.

Conflicts of Interest: No conflicts declared.

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