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A child with glomangioma and osteochondroma on the same leg: A case report

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ABSTRACT

Glomangioma is a rare neoplasm that typically occurs in soft tissue of the extremities, particularly the subungual region of the fingertip. Osteochondromas are benign proliferations composed of mature bone and a cartilaginous cap. A case involving a 9-year-old boy with two benign masses (glomangioma and osteochondroma) on his right leg is presented. To our knowledge, this is the first case of glomangioma associated with osteochondroma in a child that has been reported. [Turk J Cancer 2008;38(4):194-197]

KEY WORDS:

Glomangioma, osteochondroma, children

INTRODUCTION

Glomangiomas are benign vascular tumors, which arise from modified smooth muscle cells of the glomus body. Glomangiomas being commonly found in the distal part of the digits are painful tumors and constitute 1-5% of all hand tumors. They usually appear as a small, slightly elevated, round, red-blue, firm nodule (1-5).

Osteochondromas (OC), which are sometimes called exostoses, are the most common benign bone tumors, often occurring as a solitary lesion and constitute 0.25 of all benign and malign bone tumors (6). Most of them are asymptomatic. They usually arise from the metaphysis of long tubular bones such as the femur or humerus. Clinical presentation is usually localized pain, which is related to the lesion's placement near the joint (7,8).

In this report, we present a child with glomangioma and OC on the same leg. To our knowledge, this association of glomangioma and OC has not been previously reported in the literature.

CASE REPORT

A 9-year-old boy was admitted to our hospital for swellings on his right leg. It was learned that the swelling had begun on the medial side of his right leg when he was 6 years old and measured 1x1 cm, then it progressively

hardened and enlarged in three years. Another swelling near the knee joint appeared at age of six. Until he was 9 years old, he had no symptoms other than swelling, but recently his complaints of pain at the lesion region, which increases with effort and diminishes at rest, had begun. There were not any similar complaints or symptoms in any other members of the family including his parents.

On physical examination, there were two swellings located on the medial side of the right leg. One of them was near the knee and the other was on his ankle. Both of the lesions were 4x3 cm in diameter. On inspection, there was no discoloration but they were tender with palpation. Complete blood count, biochemical analysis, and urine analysis were unremarkable. Radiograms of the right knee and tibia showed OC at the medial side of the proximal tibia, also a calcified soft tissue density was determined at the distal medial of right tibia (Figure 1). Magnetic resonance imaging (MRI) revealed an isointense lesion, with cortical and medullar continuity on the proximal of the right tibia which correlated with OC. The margins of the lesion were well defined. Additionally, MRI showed another heterogenous, multinodular, encapsulated lesion in the subcutaneous tissue adjacent to the right distal tibia. This lesion had calcification and high vascularity within the substance of the tumor and had no continuity with the underlying bone (Figure 2).

Both of the lesions were completely excised. The proximal and distal lesions were diagnosed as OC (Figure 3) and glomangioma (Figure 4), respectively. The second tumor consisted of vascular channels that anastomosed in a cavernous-like pattern. These vascular spaces were lined

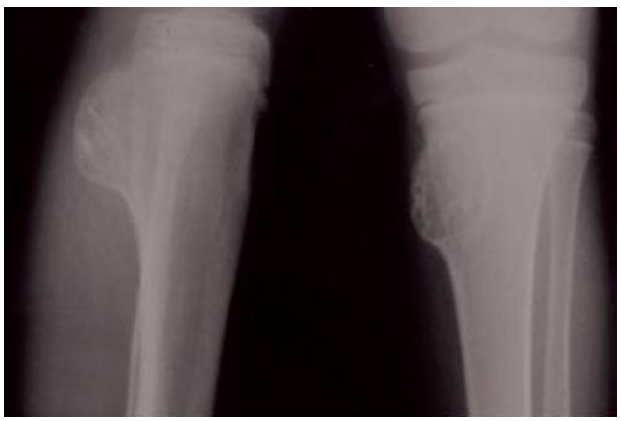

Fig 1. Radiograms of the right knee and tibia showed osteochondroma at the medial side of the proximal tibia

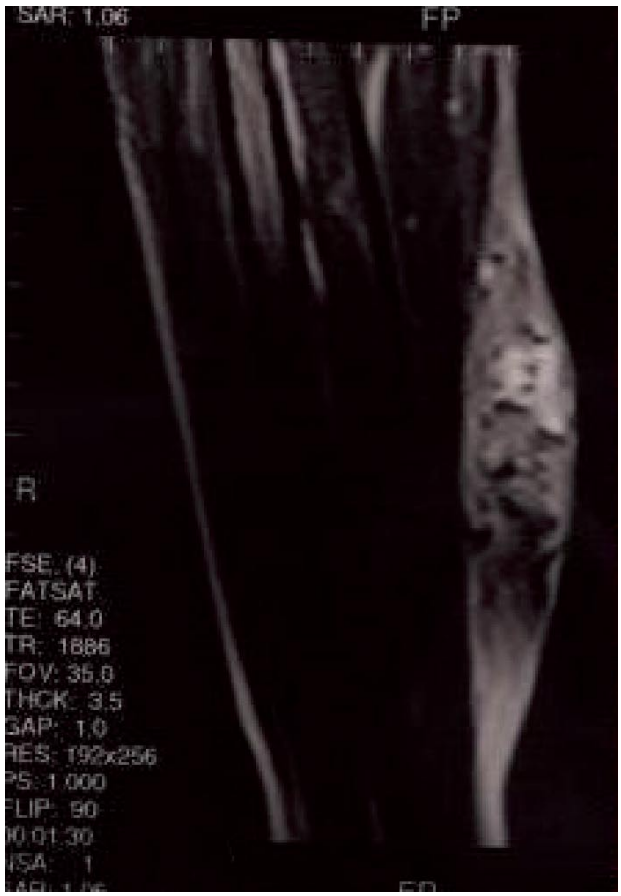

Fig 2. This lesion had calcification and high vascularity within the substance of the tumor and had no continuity with the underlying bone

with flattened endothelial cells. The vascular walls were thick and contained small round cell outlines. There was no mitosis or necrosis observed. No other treatment was indicated for such tumors. There has been no recurrence of the lesions for five years.

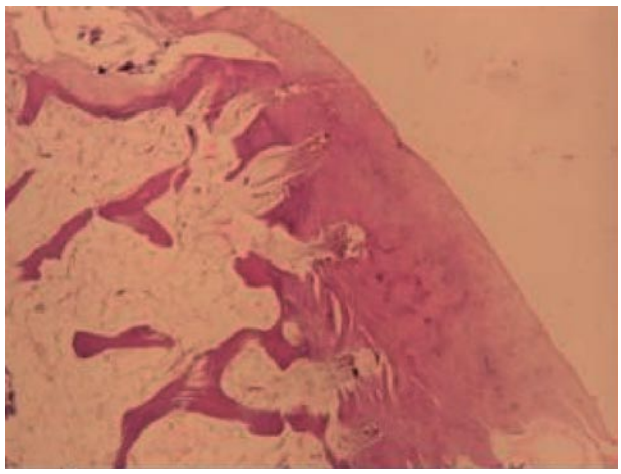

Fig 3. Histopathology shows osteochondroma

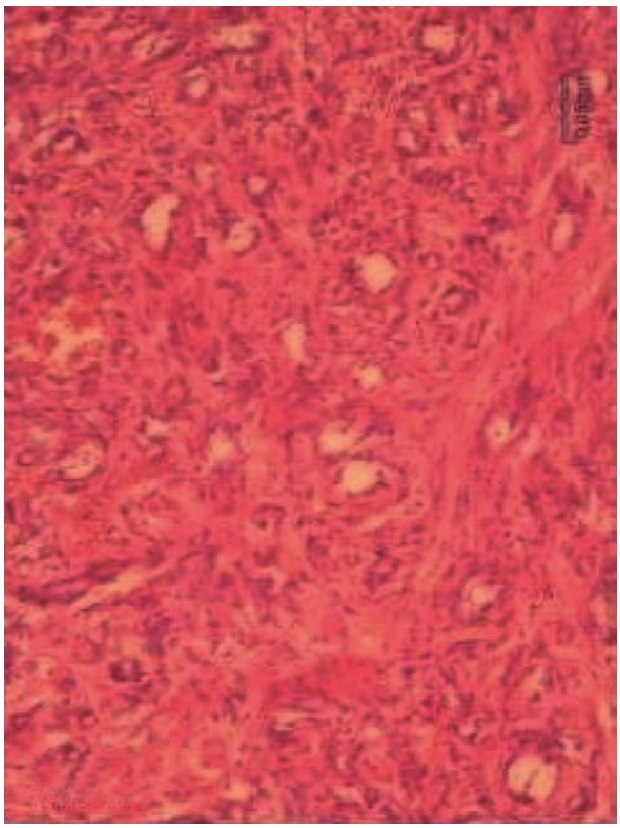

Fig 4. The tumor consisted of vascular channels that anastomosed in a cavernous-like pattern. These vascular spaces were lined with flattened endothelial cells. The vascular walls were thick and contained small round cell outlines. There was no mitosis or necrosis observed

DISCUSSION

Glomus tumors, extremely rare in childhood, are rare hamartomatous lesions that are derived from the glomus body, a temperature-regulating receptor located in the deep dermis. A glomus tumor is characterized by excessive proliferation of vascular structure with distinctive large cells, the glomus cells, associated with thickened endothelium (1-3). They are purple to red in color and typically range in size from 1 to 5 mm in diameter. The triad of pain, tenderness, and sensitivity to cold is typical of a glomus tumor (1,2). The tumor may occur anywhere in the body, although the most common site is the subungual region of the fingers. Glomus tumors arising primarily within bone is quite rare (4,5). Differential diagnosis of intraosseous glomangioma includes epidermal inclusion cyst, enchondroma, chronic osteomyelitis, sarcoidosis, metastases, subungual melanoma and OS (4,5).

Osteochondromas are benign proliferations composed of mature bone and a cartilaginous cap. They usually arise from the metaphysis near the growth plate of long tubular bones. Most OCs are asymptomatic, but some may cause disturbing cosmetic deformities. They occur most often as solitary, sporadic lesions, however they may be multiple in rare familial disorders (7,8).

Solitary OCs have a characteristic radiographic appearance. Radiographically, they appear bony outgrowth, sessile or pedunculated (7,8). However, for intraosseous glomangioma, the radiographic appearance resembled that of an OC, epithelial inclusion cyst or bone cyst. Pathologic examination is necessary for correct diagnosis in the intraosseous glomangioma diagnosis (4,5).

In our case, the patient had two masses on his right leg. The first one was present as a localised swelling on his right proximal leg since he was 6 years old. It was originally 1x1 cm, then progressively hardened and enlarged to 4x3 cm. The second mass was on his right distal leg. He had no complaint for either of these swellings. The first mass' radiological examinations revealed OC. The other's MRI showed calcification and high vascularity within the substance of the tumor without continuity with the underlying bone. The masses were completely excised. On histopathological examination, the first tumor was diagnosed as OC. The second tumor consisted of vascular channels that anastomosed in a cavernous-like pattern. These vascular spaces were lined with flattened endothelial cells. The vascular walls were thick and contained small round cell outlines. No mitosis or necrosis was observed.

Treatment of these benign tumors is surgery. For glomangioma, the surgery can be difficult as identification of the glomus tumor is challenging because it is often small and indistinguishable from the surrounding tissues. This may be the cause of unsuccessful surgery in some cases (2,3). A 15% rate of recurrence following surgery has been reported (3). However, when a double-tourniquet technique during dissection and tumor excision was performed, no recurrence was observed (2). In OC, should it be symptomatic, simple resection at the base of the lesion is the traditional treatment method (7,8). In our case, two masses were completely excised. There has been no recurrence of lesions for five years.

In summary, glomangioma is a rare benign vascular tumor. The most common site is the subungual region of the finger. Glomangiomas arising primarily within bone are extremely rare and it can be misdiagnosed as OC. We present a case with glomus tumor and OC on the same leg. To the best of our knowledge, this association of glomangioma and OC has not been previously reported in the literature.

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