 doi: 10.5146/tjpath.2012.01119

Periosteal Chondroma of the Ischium; An Unusual Location

İskium Yerleşimli Periosteal Kondrom

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ABSTRACT

Periosteal chondroma is a rare benign tumor of hyaline cartilage. Periosteal chondroma arising in the ischium is an extremely rare event. By presenting this case report, we aim to remind that differential diagnosis of these lesions should be carefully performed especially for unusual locations.

A 51-year-old man visited the orthopedics clinic with the complaints of left pelvic mass and pain lasting about one year. Computed tomography showed a solid mass with abundant specks of calcification that was 4x5 cm in diameter and associated with the ischium of the left pelvic bone. There was no evidence of penetration into the medullary cavity and cortical sclerosis. No radiological aggressive appearance was observed. The lesion was removed with the covering periosteum. Microscopically, there were lobules of hyaline cartilage composed of chondrocytes with foci of endochondral ossification and calcification. The case was reported as 'periosteal chondroma'.

In conclusion, this case report presents a case of periosteal chondroma, a rare tumor, which occurred in an unusual location and age range. The differential diagnosis of periosteal chondroma from malignant lesions is necessary for avoiding aggressive and inappropriate treatment.

Key Words: Chondroma, Ischium, Chondrosarcoma

ÖZ

Periosteal kondrom nadir görülen benign bir hyalin kıkırdak tümörüdür. İskiyum yerleşimi çok nadir olarak izlenir. Bu çalışmamızda nadir görülen bu tümörün nadir görülen bir lokalizasyonunu sunarak, ayırıcı tanıda dikkat edilmesi gerektiğini hatırlatmayı amaçladık.

51 yaşında erkek hasta yaklaşık bir yıldır devam eden pelvik kitle ve ağrı şikayetiyle ortopedi kliniğine başvurdu. Bilgisayarlı tomografi ile yapılan incelemede; 4x5 cm çapında, sol pelvik kemik iskiyumda lokalize olmuş, kalsifikasyon alanları belirgin, solid kitle izlendi. Medüller kaviteye penetrasyon veya kortikal skleroz bulgusu görülmedi. Radyolojik olarak agresif bir özellik izlenmedi. Lezyon çevresindeki periosteum ile birlikte çıkarıldı. Mikroskopik incelemede, endokondral ossifikasyon ve kalsifikasyon odakları içeren, kondrositlerden meydana gelen ve lobüller oluşturan hyalin kartilaj yapısı izlendi. Bu bulgular eşliğinde olgu 'periosteal kondrom' olarak rapor edildi.

Sonuç olarak, bu çalışmamızda nadir bir yerleşim ve yaş aralığında görülen ve nadir bir tümör olan periosteal kondrom olgusunu sunduk. Agresif ve uygunsuz bir tedavi yaklaşımının önlenebilmesi açısından periosteal kondromun malign lezyonlardan ayırıcı tanısının yapılabilmesi önemlidir.

Anahtar Sözcükler: Kondrom, İskiyum, Kondrosarkom

INTRODUCTION

Periosteal chondroma is a relatively rare benign cartilage tumor that arises from the periosteum. Although periosteal chondromas account for less than 2% of all chondromas, they can occur both in adults and children (1-3).

They predominate in patients younger than 30 years of age, with the highest frequency in the second decade (3-5). The most common location for periosteal chondromas is the metaphyses of long tubular bones, particularly the proximal humerus, although small tubular bones of hands and feet can also be involved (1,2,5). We report a case of periosteal chondroma in the ischium which is an unusual location. The older than expected age of the patient is also another remarkable finding.

CASE REPORT

A 51-year-old man visited the orthopedics clinic with the complaints of left pelvic mass and pain lasting about one year. Physical examination revealed a palpable and fixed mass in the ischium. The family and past histories were not contributory. X-ray findings were not clear because of overlapping of the tumor and ischium (Figure 1). Computed tomography showed a solid tumor that was 4x5

(Turk Patoloji Derg 2012, 28:172-174)

Received : 25.10.2010 **Accepted :** 25.12.2010

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cm in diameter and associated with the left pelvic bone with abundant specks of calcification (Figure 2). Magnetic resonance imaging revealed a lobular heterogenous mass arising from the ischium and extending anteriorly, that was hypointense on T1-weighted images, hyperintense on T2-weighted images and showed no enhancement after gadolinium (Figure 3). There was no evidence of penetration into the medullary cavity and cortical sclerosis. No radiological aggressive appearance was observed. Perioperatively, the tumor was noted to be surrounded by an intact fibrous capsule and to originate from the anterior aspect of the left ischium. The lesion was removed with the covering periosteum. On pathologic examination, a cauliflower-like lesion composed of soft tissue and cartilaginous areas that was 6x5x4 cm in diameter was seen macroscopically. Microscopically, there were lobules of hyaline cartilage composed of chondrocytes with foci of endochondral ossification and calcification (Figure 4). The lesion was hypercellular but cytological atypia was not seen. There was no penetration to the medullary cavity and surrounding soft tissues. The case was diagnosed as 'periosteal chondroma'.

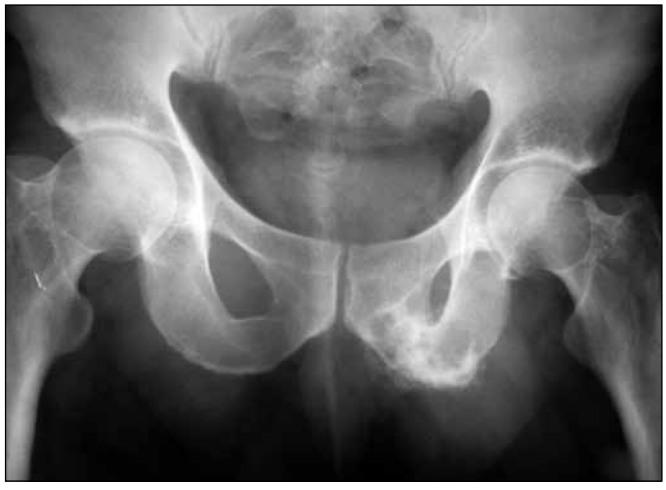

Figure 1: X-ray findings are not clear because of overlapping of tumor and ischium.

DISCUSSION

Periosteal chondroma is a very rare benign tumor of hyaline cartilage accounting for less than 2% of all chondromas (1). It is a slow-growing lesion, generally of small size (1-3 cm), developing at the periosteal region, frequently eroding the cortex. The lesion is predominantly seen in patients younger than 30 years of age with the highest frequency in the second decade and with equal sex distribution (2-5). However, our patient is a 51-year-old man. The metaphyses of long bones, particularly the proximal humerus, and small tubular bones

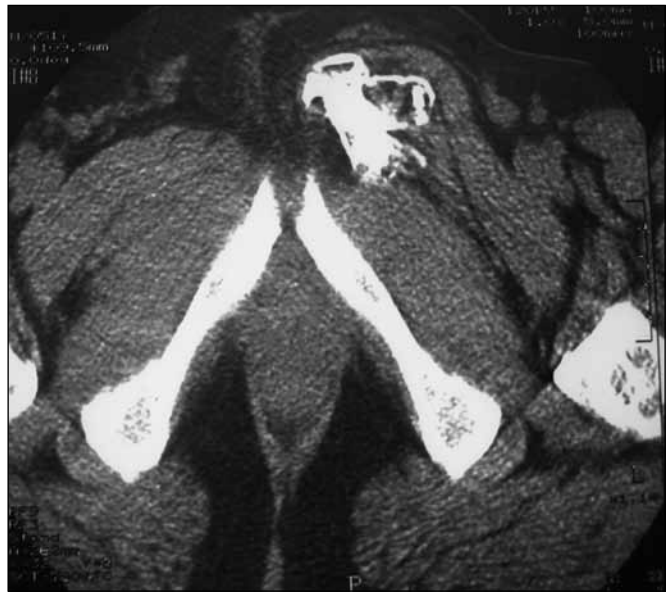

Figure 2: Computed tomography showing a solid tumor associated with the left pelvic bone.

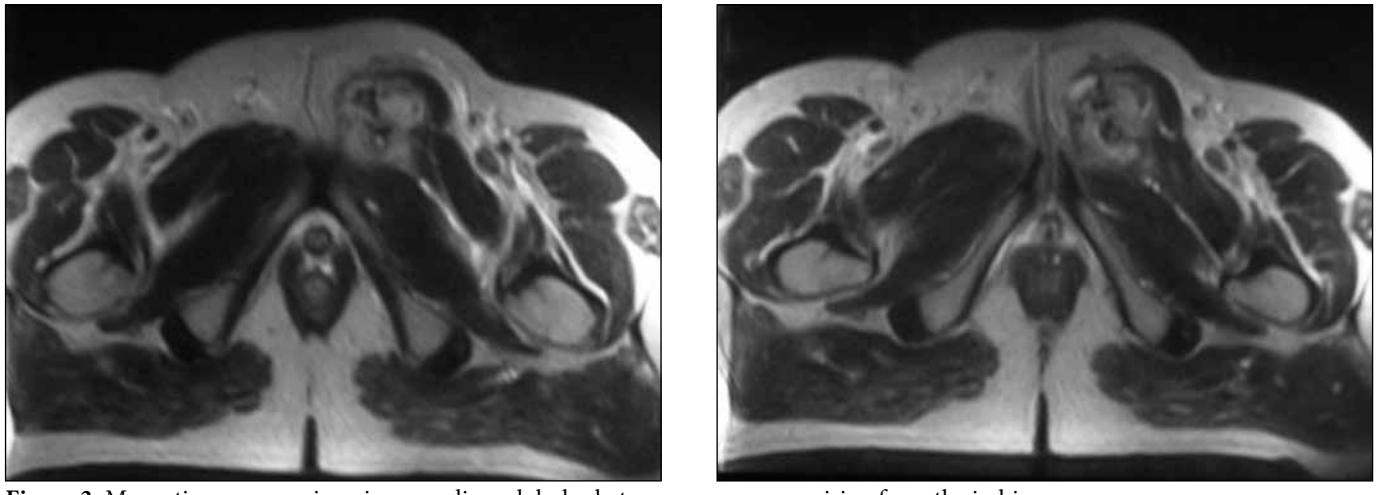

Figure 3: Magnetic resonance imaging revealing a lobular heterogeneous mass arising from the ischium.

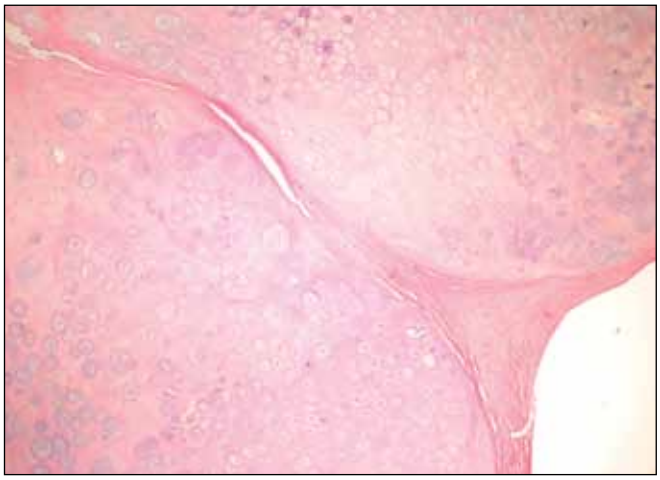

Figure 4: Lobules of hyaline cartilage composed of chondrocytes with endochondral ossification (H&E, x200).

of hands and feet are the most common locations (1,2,5). A few cases have been reported in the spine, clavicula and costochondral margin (2,6,7) whereas, to our knowledge, there is only one reported case on periosteal chondroma of the ischium in the English literature (8).

Common roentgenographic features are cortical erosion surrounded by periosteal reaction producing peripheral buttressing, and a thin margin of cortical sclerosis underlying the base of the lesion. Focal calcification or ossification may be present within the soft-tissue mass (9). Histopathologically, periosteal chondromas show a lobulated configuration of hyaline cartilage covered by periosteum (3,10,11). They are usually hypocellular, but occasionally may show increased cellularity with nuclear pleomorphism, binucleation, and multinucleation (2,4,5). They may sometimes be misdiagnosed as chondrosarcoma because of hypercellularity and nuclear atypia (12). The differential diagnosis of periosteal chondroma includes juxtacortical chondrosarcoma and periosteal osteosarcoma. Histologically, it may be difficult to distinguish low-grade chondrosarcoma from a chondroma. Juxtacortical chondrosarcoma shows popcorn calcifications on radiographs, whereas a periosteal osteosarcoma is expected to demonstrate perpendicular spicules of calcification (13). Both periosteal chondrosarcoma and osteosarcoma are common in the pelvis, while this is an unusual location for periosteal chondromas.

In conclusion, this case demonstrates the characteristic radiological and histological features of periosteal chondroma, a rare tumor, which occurred at an unusual location and age**.** The differential diagnosis of periosteal chondroma from malignant lesions is necessary for avoiding aggressive and inappropriate treatment.

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