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Case Report

A Rare Case of Huge Osteochondroma in the Iliac Bone of an Adult

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Abstract

Childhood or adolescence can see the development of a benign tumor called an osteochondroma. It is an irregular growth that appears on a bone's surface close to the growth plate. Comprising both bone and cartilage, an osteochondroma is a growth plate protrusion. There are common placements for the metaphysis of the proximal tibia, distal femur, distal fibula, proximal femur, and proximal humerus.

Keywords: Iliac bone, Osteochondroma, Surgical excision.

حالة نادرة من الورم العظمي الغضروفي الضخم في العظم الحرقفي لشخص بالغ

الخلاصة

يمكن أن تشهد الطفولة أو المراهقة تطور ورم حميد يسمى الورم العظمي الغضروفي إنه نمو غير منتظم يظهر على سطح العظام بالقرب من صفيحة النمو. يتألف الورم العظمي الغضروفي من العظام والغضاريف، وهو نتوء في لوحة النمو. هناك مواضع شائعة لميتافيزيا الظنبوب القريب، وعظم الفخذ البعيد، والشظية البعيدة، وعظم الفخذ القريب، وعظم العضد القريب.

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INTRODUCTION

Osteochondromas are common non-cancerous bone neoplasms. It is thought that these are little cartilaginous nodules that originate from the periosteum and are developmental anomalies rather than real cancers [1]. The lesions are characterized by a bony mass, typically in the shape of a stalk, formed by incremental endochondral ossification of an expanding cartilaginous cap [2]. The growth of these lumps often follows the same pattern as that of the patient and typically stops when the skeleton reaches full maturity [3]. Typically, lesions occur during the phase of accelerated skeletal development. Only one lesion is seen in about 90% of individuals. Although osteochondromas can develop on any bone made of cartilage, they are most commonly discovered on a long bone's metaphysis close to the physeal [4]. The proximal tibia, proximal humerus, and distal femur are where they are most frequently observed. They rarely form in a joint. Many of these lesions create no symptoms and are identified accidentally. Some cause mechanical symptoms by causing irritation to the surrounding structures, and occasionally a fracture results in discomfort. Multiple inherited exostoses is an autosomal-dominant disease with varying penetrance [5]. EXT1 or EXT2 are the two genes that are mutated in the majority of people with this illness. In this disorder, osteochondromas of numerous bones are produced by an aberration of skeletal development. The most striking element is the presence of multiple exostoses [5]. There are two varieties of osteochondromas: broad-based, sessile, and pedunculated. All gradations between these kinds also occur. Tumors with pedunculations are more frequent, and any distinct stalks tend to point in the opposite direction from the physis from which they originate [6]. Cortical and cancellous elements of the lesion's projecting portion are continuous with homologous elements of the parent bone. A typically uneven cartilaginous cap covers the lesion; radiographs usually do not show this cap; on rare occasions, calcification within the cap may be visible. Malignant degeneration is extremely rare [4]. When a lesion becomes so large that it is unattractive, pressurizes nearby structures, and causes symptoms, or when imaging signs point to malignancy, surgery (en-bloc excision) is necessary [7]. Recurrence is uncommon and most likely results from not completely removing the cartilaginous cap. Osteotomies may be necessary in patients with several inherited exostoses in order to correct deformities [8].

Case Presentation

A 29-year-old male was admitted to AVBRH hospital with a complaint of a mass in the left hip region, which had been gradually increasing in size over the past 5

years. The patient was asymptomatic for the first 5 years; however, for the last 3 months, he began experiencing pain in the left hip and was unable to lie down in the supine position. Upon admission, he was vitally stable, conscious, and oriented. The swelling was initially small 5 years ago but gradually increased to its current size of 10 x 12 cm. Over the past 3 months, the swelling has progressed more rapidly compared to the earlier period. It is located posterior to the left iliac blade, has a globular shape, and exhibits a bony, hard consistency. The swelling measures 10 x 12 cm and is immobile. The surrounding skin appears normal (Figure 1).

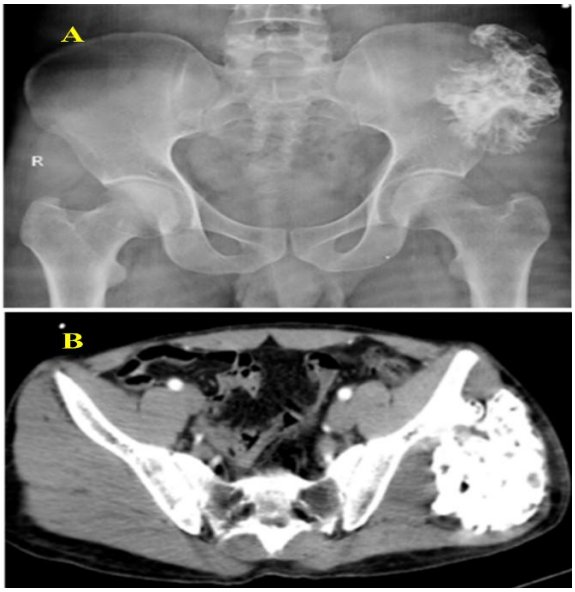

Figure 1: A) Preoperative X-ray image of the mass; **B)** Preoperative CT scan of the mass.

The patient has no history of prior trauma to the affected area. The primary investigation, an X-ray of the pelvis with both hips, showed an irregular bony outgrowth on the left iliac bone, measuring 12 cm x 6 cm laterally (Figure 2).

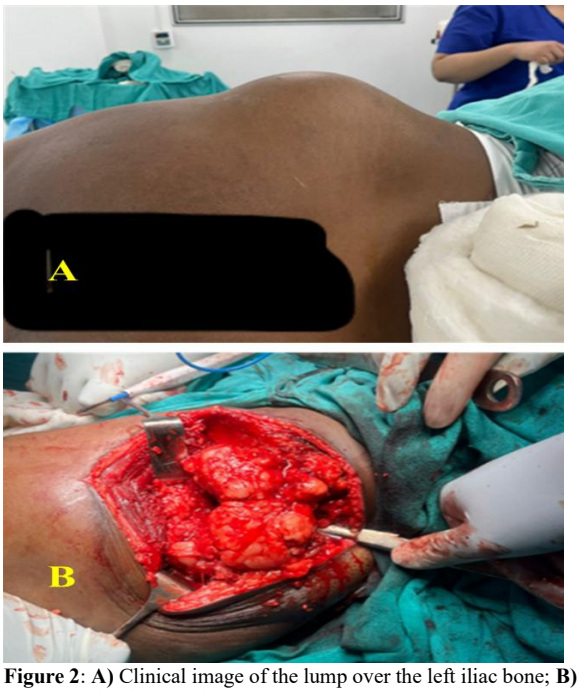

Figure 2: **A)** Clinical image of the lump over the left iliac bone; **B)** Intraoperative image of the mass.

A subsequent MRI of the pelvis revealed an osseous protrusion on the left iliac bone, measuring 7.6 cm x 8.8 cm x 6.9 cm, with a cartilaginous cap of 2.5 cm. A biopsy was performed on the mass over the left iliac bone and sent for histopathological analysis, which confirmed the diagnosis of osteochondroma. The patient underwent tumor excision using an extended iliofemoral approach with a 12 cm incision. Soft tissue dissection was performed to expose the tumor. The muscles and soft tissues were carefully separated from the mass, allowing visualization of the stalk. The tumor, along with its stalk, was excised en-bloc. The tumor measured 12 cm x 9 cm x 6 cm (Figure 3).

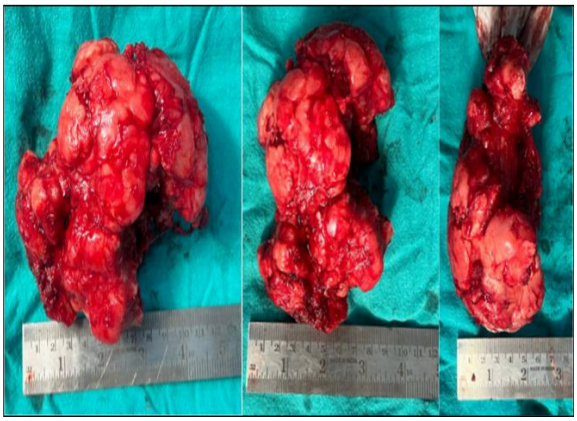

Figure 3: Clinical images of the excised mass.

The specimen was sent for histopathological analysis (Figure 4).

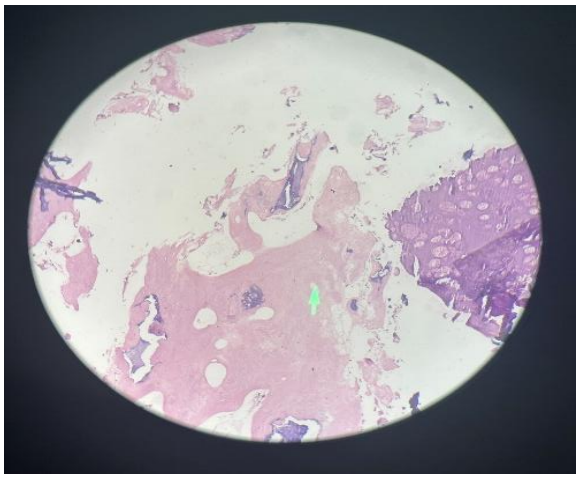

Figure 4: Section shows capsule, cartilage cap, underlying bony trabeculae and bone marrow elements suggestive of osteochondroma.

Hemostasis was successfully achieved, and following drain insertion, the incision was closed with sutures. The patient began active and passive physical therapy on postoperative day 1. A post-operative X-ray confirmed the complete removal of the tumor (Figure 5). The patient was discharged after suture removal, able to walk with full weight-bearing, experiencing complete relief from pain, and was comfortable lying in the supine position. A follow-up appointment was scheduled for 1 month later.

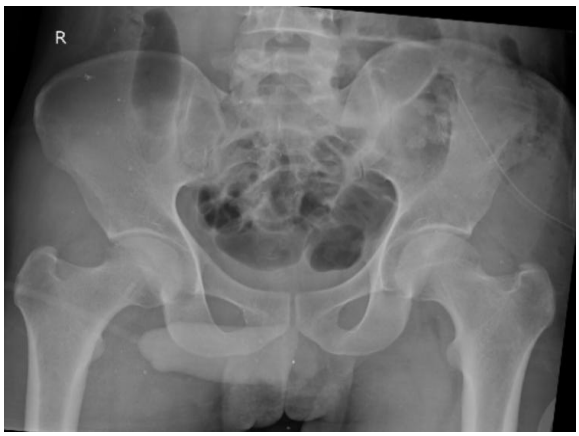

Figure 5: Postoperative X-ray image shows the iliac bone.

DISCUSSION

Although osteochondroma is a commonly encountered benign bone tumor, it is rare for it to originate in the iliac region. En bloc excision of the tumor is necessary when osteochondroma causes pain, compresses surrounding nerves, or shows persistent growth along with other clinical symptoms [9]. Like the instance we reported, this disease has a long history and a gradual onset. Early symptoms are not readily apparent, and as the human body grows and develops, they become more noticeable. Most of the time, X-rays and CT scans are diagnostic and enable anatomical delineation of the lesion. On imaging, osteochondroma usually appears as a pedicled or sessile bone-like protrusion [10]. Adjacent soft tissue anomalies or bone deterioration are possible outcomes. Malignancy may also be suggested by a poorly defined outer cortical boundary and bone disintegration [11]. Less commonly, osteochondromas form in bones such as the scapula, foot, hands, and pelvis. Furthermore, it can significantly diminish the patients' quality of life and lead to severe symptoms. Improved identification and thorough assessment of these uncommon instances should be emphasized to prevent misdiagnosis in our clinical practice [12].

Conclusion

The asymptomatic pelvic tumor in our patient's case progressed to the point that it was interfering with day-to-day activities. In unusual locations, osteochondromas require a high level of clinical suspicion to be correctly diagnosed. These areas should be known to all providers, especially primary care physicians, as this is where patients with symptomatic mass lesions will probably first present [13].

Conflict of interests

No conflict of interest was declared by the authors.

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Data sharing statement

Supplementary data can be shared with the corresponding author upon reasonable request.

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