CASE REPORT

Infected Osteochondroma of Great Toe: A Case Report

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ABSTRACT

This case report presents a rare instance of an infected osteochondroma in the phalanx of the great toe, a condition with limited documentation in the literature. A 26-year-old male patient reported a painful, gradually enlarging mass on the dorsal aspect of his right great toe over two years. Radiographic evaluation revealed an ossified soft tissue mass with significant bone involvement. Surgical resection was performed, and histological analysis confirmed the diagnosis of infected osteochondroma. The report discusses clinical presentation, diagnostic challenges, and management of such cases.

Keywords: Case report, Great toe, Infected bone lesion, Osteochondroma, Rare presentation

INTRODUCTION

Osteochondromas are benign bone projections covered with a cartilage cap, commonly affecting the metaphysis of long bones in growing skeletons. While solitary osteochondromas are frequent, cases involving the phalanges, particularly with infection, are exceedingly rare. This report aims to highlight the clinical and diagnostic aspects of an infected osteochondroma in the great toe, contributing valuable insight into managing such uncommon presentations.[1 2 3]

CASE REPORT

This case was reported due to its rarity, with limited literature documenting osteochondromas of the phalanx associated with infection. A 26-year-old male presented to our outpatient department with complaints of a painful, discharging mass on the dorsal aspect of his right great toe. The mass had gradually increased in size over the past two years, causing discomfort during ambulation. On examination, a firm, fixed, and tender mass measuring approximately 7 × 5.5 × 4 cm was noted. Plain radiography revealed an ossified soft tissue mass surrounding the proximal phalanx of the great toe with significant bone involvement and no evidence of distant lesions.

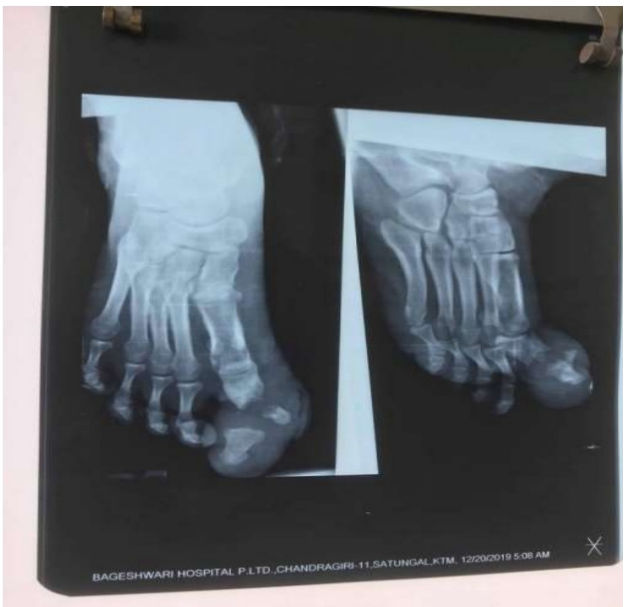

Figure 1: Ossified soft tissue mass with pathological fracture right great toe.

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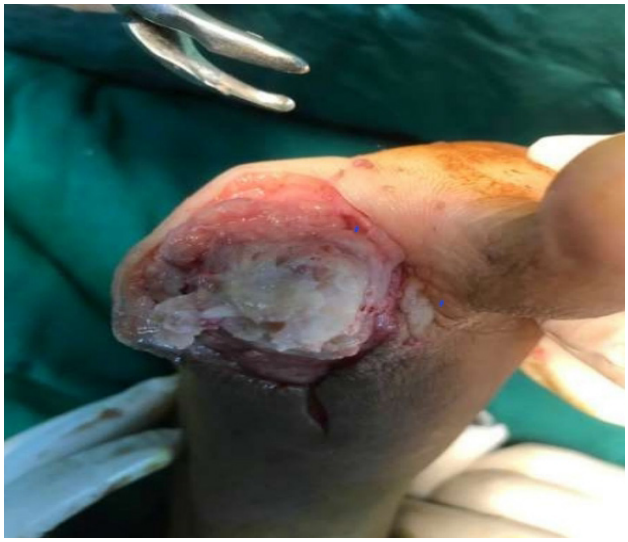

Figure 2: Intraoperative image of the tumor

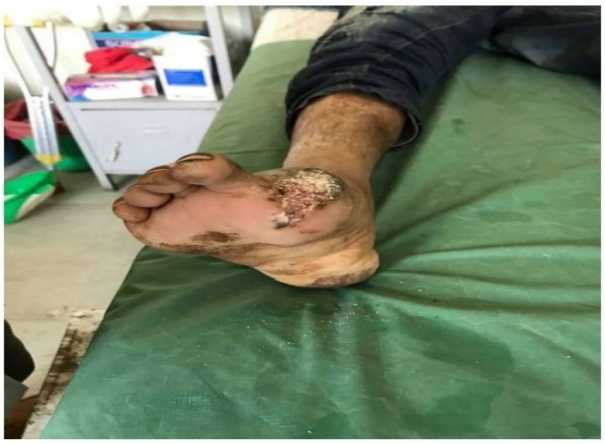

Figure 3: One week post-operative image after surgery

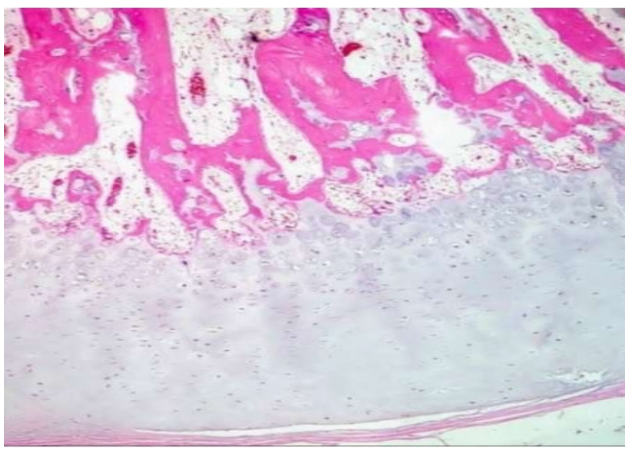

Figure 4: Figure 4: Images showing cartilagenous cap with underlying numerous bony trabeculae

Surgical excision of the mass was performed. Intraoperative findings revealed a well-defined mass comprising whitish cartilage with focal bony areas. The excised specimen measured 7 × 5.5 × 4 cm. Histological examination showed a cartilaginous cap with lacunae, underlying bony trabeculae, and interspersed adipocytes and marrow particles. These findings confirmed the diagnosis of an infected osteochondroma. Postoperative follow-up showed satisfactory wound healing and no recurrence after six months.

DISCUSSION

Osteochondromas account for 20-50% of benign bone tumors and typically arise in long bones. In rare instances, they present in the phalanges, with infection being an uncommon complication. Symptoms often include localized swelling, pain, and in cases of infection, discharge or systemic signs of inflammation.[1,2] Radiographic evaluation remains the cornerstone for diagnosis, with ossified masses and cartilage caps being characteristic. Surgical resection is indicated in symptomatic cases or when malignancy is suspected. Complete removal of the cartilage cap and any perichondrium is essential to prevent recurrence.[3-5]

In this case, the lesion's atypical location and associated infection posed diagnostic and therapeutic challenges. However, successful surgical excision and postoperative management resulted in favorable outcomes.

CONCLUSION

Osteochondromas, although benign, can present with unusual complications such as infection, particularly in atypical locations like the phalanges. Prompt diagnosis and surgical intervention are crucial for optimal outcomes. Regular follow-up is recommended to monitor for recurrence or malignant transformation.

REFERENCES

1. Khurana J, Abdul-Karim F, Bovée JVM. Osteochondroma. In: Fletcher C.D., Unni K.K., Mertens F., editors. Pathology and genetics of tumours of the soft tissues and bones. IARC Press; Lyon: 2002. pp. 234–237.
2. Osteochondroma. In: Unni KK, Ed., Dahlin's bone tumors: general aspects and data on 11,087 cases. 5th ed. Lippincott-Raven Publishers, Philadelphia; USA: 1996. pp. 11-23.

3. Murphey MD, Choi JJ, Kransdorf MJ, Flemming DJ, Gannon FH. Imaging of osteochondroma: variants and complications with radiologic-pathologic correlation. Radiographics. 2000 Sep;20(5):1407-34. [PubMed]

4. Mavrogenis AF, Papagelopoulos PJ, Soucacos PN. Skeletal osteochondromas revisited. Orthopedics (Online). 2008 Oct 1;31(10):1018. [PubMed]

5. Bernard SA, Murphey MD, Flemming DJ, Kransdorf MJ. Improved differentiation of benign osteochondromas from secondary chondrosarcomas with standardized measurement of cartilage cap at CT and MR imaging. Radiology. 2010 Jun;255(3):857-65. doi: 10.1148/radiol.10082120. Epub 2010 Apr 14. PMID: 20392983. [PubMed]