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Case Report

An Intraosseous Capillary Haemangioma of the Right Foot: A Case Report

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ABSTRACT

Primary intraosseous haemangioma is an uncommon bone tumour that accounts for approximately 1% of all primary bone tumours. The majority of cases are seen in the cranium and vertebrae, either as solitary or as multiple lesions. It is rarely found on foot. Furthermore, it is especially uncommon to be located at this site. We describe here a case of a 20-year old male who presented with an osteolytic lesion on the fifth metatarsal of the right foot. He received a surgical excision. Microscopically, the tumour was composed of lobules of capillary sized vascular channels with occasional dilated crescent-shaped openings at the periphery.

Keywords: *Intraosseous haemangioma, Foot, Metatarsal, Capillary haemangioma.*

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INTRODUCTION

Intraosseous haemangioma is an uncommon benign vascular tumour. It accounts for about 1% of all primary osseous tumors[1]. These rare, slow-growing tumours exhibit female predominance, with a male female ratio of 1:2[2]. These tumours are most commonly observed in the skull (80%) and spine (30-50%), with the involvement of long and flat bones being very rare[3,4,5,6]. Intraosseous haemangioma in long bones is usually located in the diaphyseal and diaphysio-metaphyseal regions[2].

Here we report a case of intraosseous haemangioma in a 20 year old male with an initial presentation of an osteolytic lesion in the right fifth metatarsal bone. We described the clinical, radiological, and histological details of the case, as well as the outcome of the surgical treatment.

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CASE REPORT

A 20 year old male patient was admitted to the department of Orthopaedics, Jalalabad Ragib-Rabeya Medical College Hospital, Sylhet, with complaints of pain in the right foot for eight years. On examination, a localized swelling was noted, which was ill defined, firm, located at the lateral aspect of the junction of the mid and fore foot, with normal local temperature and mild tenderness. There was no restriction to movement of the joint. Blood tests showed high C-reactive protein (10 mg/dL) with a normal blood picture. The Mountox test and Immunochromatographic test (ICT) for *Mycobacterium Tuberculosis* were found to be negative.

The plain radiographs of the right foot showed an osteolytic lesion at the fifth metatarsal bone with cortical destruction (Figure-1). Magnetic resonance imaging (MRI) was advised, but the patient refused. With the possibility of a tumour like bone lesion or osteomyelitis, surgical intervention was planned.

After exploration, the lesion was found to be granular and beaded, which was friable with a few cortical destructions (Figure-2). Gentamicine beads were given in the lesion and the intraosseous content was sent for histopathological study. The tumour was composed of lobules of capillary sized vascular channels with foci of dystrophic calcification with fibrosis and histopathologically, the section showed soft tissue and it revealed capillary haemangioma (Figure-3 and Figure-4). An immunohistochemical study was performed on paraffin embedded tissue. These tumour cells were immunoreactive for both vascular markers, CD34 and CD31 (Figure-5). The diagnosis of intraosseous capillary haemangioma was confirmed. The patient was followed up at every 15-day interval for two months.

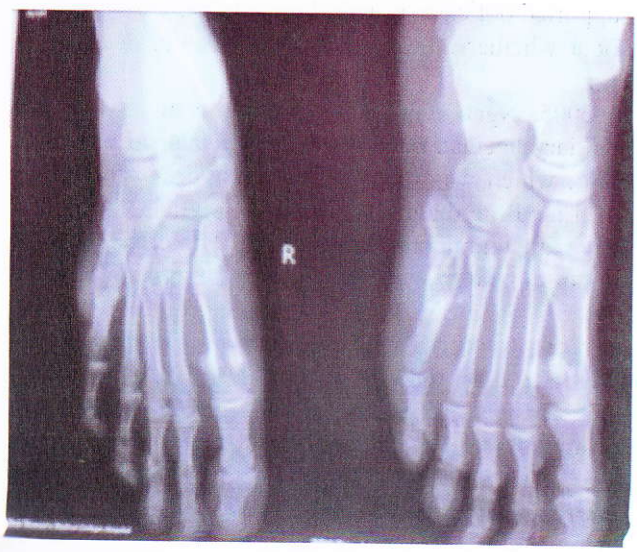

Figure-1: Preoperative X-ray of the foot.

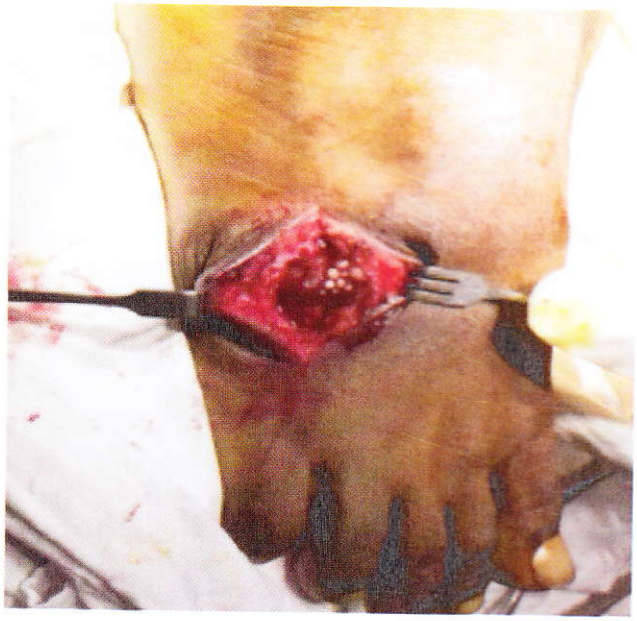

Figure-2: *Per-operative findings.*

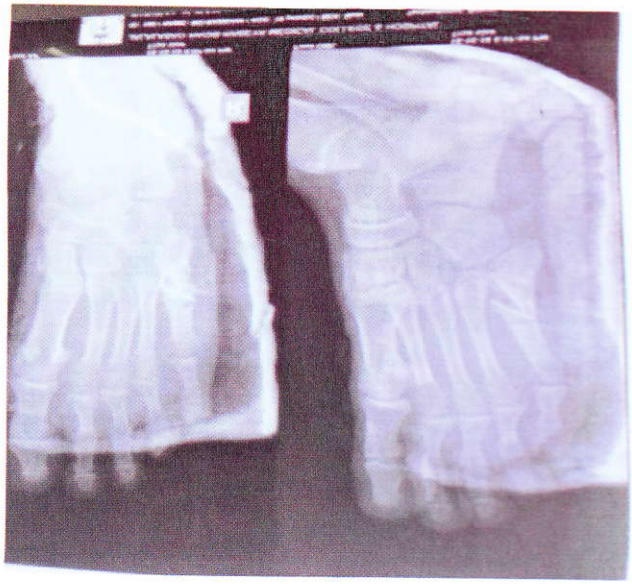

Figure-3: *Post operative X-ray.*


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Figure-1: *Histopathological report.*

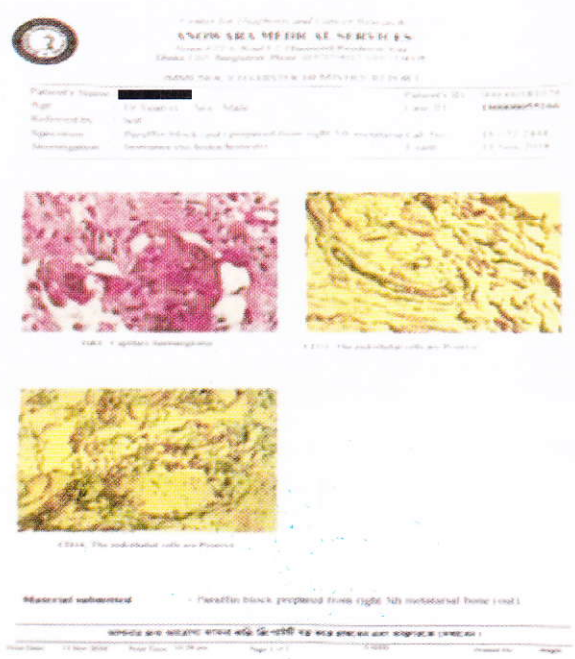

Figure-2: *Immunohistochemistry report.*

DISCUSSION

Intraosseous haemangioma constitutes less than 1% of all primary bone neoplasm. Approximately 75% occur in the calvarium or vertebrae, with long bones, short tubular bones and ribs constituting the rest[1]. It is rarely found in the feet. None of the 108 intraosseous haemangioma in Ngan KW's series was found in a foot[7]. Of the total 153 cases in a large series of tumours of the foot and ankle reported by Chou LB et al. in 2009, only six cases were diagnosed as haemangioma[8]. Furthermore, it comprised approximately 1.2% of all intraosseous neoplasm found in the feet. Since then, only limited cases have been described in English medical literature. From a radiological point of view, the classic corduroy sign and sunburst patterns of vertebral and skull haemangioma are uncommon in extremity sites. The extremity site lesions might have a classic coarse trabecular bone pattern or soap bubble appearance, but a permeative pattern of irregular bone destruction can also be seen. Due to the diversity of radiological patterns produced by the skeletal haemangioma, a correct preoperative diagnosis was rarely made[2], which supported our case, as radiologically we were confused about whether it was infective or growth or anything else.

In 2005, Ngan et al. reported a case of intraosseous capillary haemangioma in the 4th metatarsal bone in a child, which was the 1st case in children where they confirmed the diagnosis on frozen section biopsy and also with immunohistochemistry[7]. These aspects also supported our case. The most common histological pattern of intraosseous haemangioma was the cavernous type, although capillary or mixed patterns of growth might also be seen. This case was not a pyogenic granuloma since no inflammatory cell infiltrates were seen. Another differential diagnosis was Kaposi form haemangioendothelioma, a borderline vascular tumour which had the features of both capillary haemangioma and Kaposi's sarcoma. However, the Kaposi like area that is composed of spindle cells with a slit like pattern and hyaline globules was not evident in our case. The bland looking tumour cells were easily distinguished from those in intermediate and high-grade vascular tumours, such as epitheliod haemangioendothelioma and angiosarcoma. Intraosseous haemangioma of the foot could be either asymptomatic or painful. Symptomatic haemangioma usually requires further management. Surgical excision or vascular ablative treatment was then justified[7].

CONCLUSION

Encountering an osteolytic bone lesion of the foot, intraosseous haemangioma should always be considered among the differential diagnosis as stated above. Diagnosis can be established by having a high degree of suspicion coupled with preoperative magnetic resonance imaging (MRI) and intraoperative frozen section studies. Immunohistochemistry is to be done to delineate the benign nature of this lessoin.

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