BILATERAL ACUTE HAEMANGIOMA OF THE KNEE

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ABSTRACT

Recurrent knee swelling is a common orthopaedic problem which sometimes can be a diagnostic enigma. We report a case of bilateral haemangioma of the knee, which presented clinically after trauma, as an unusual cause of knee swelling. This case demonstrates the therapeutic difficulties in surgical treatment of an haemangioma and emphasises the need for complete excision of this lesion. We further postulate that the aetiology of these lesions was possibly a result of trauma initiated growth of pre-existing haemangiomata.

Keywords: *haemangioma, knee, intramuscular, treatment-outcome, recurrence.*

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INTRODUCTION

Haemangioma involving the extremities is an interesting orthopaedic problem. Pathologically, the lesion may be superficial involving skin, subcutaneous tissue or deep involving the bone, joint and muscles. They can also present as extensive haemangiomatosis with overgrowth of an extremity.

Haemangiomata of the joints often present as diagnostic and therapeutic difficulty for the physician. Commonly the presentation is that of chronic pain, recurrent effusion and joint stiffness. Diagnosis is usually not made until histology is obtained. Therapeutically, some cases of deep haemangioma, especially with concomitant cutaneous haemangioma, have ended with extreme limb overgrowth resulting in amputation.

The following case is a unique case of bilateral knee haemangioma presenting acutely after an episode of trauma.

CASE REPORT

The patient, a 30-year-old Indian man, a cook in the Army, presented in March 1991 with a three-week history of painful right knee swelling associated with mild fever after a fall in Brunei. Clinical examination revealed a warm, extremely tender, boggy suprapatellar mass with mild effusion of the knee.

Provisional diagnosis of a deep muscle abscess was made. CAT scan reported a soft tissue mass, inflammatory in nature, anterior to the knee joint (Fig 1). Bone scan reported a moderate increase in vascularity of the right knee during the angiographic phase. Increased blood pool tracer activity was noted in the venous phase and on the 3-hour image which correlated with an inflammatory condition. With this diagnosis in mind, the lesion was explored on 22nd March 1991. A 3 cm cystic mass was found deep to the fascia overlying the quadricep femoris muscle. Some haemorrhage was present around this mass. Histological diagnosis was a capillary haemangioma (Fig 2 & 3).

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Fig 1 - MRI of the knee showing inflammatory mass anterior of the knee.

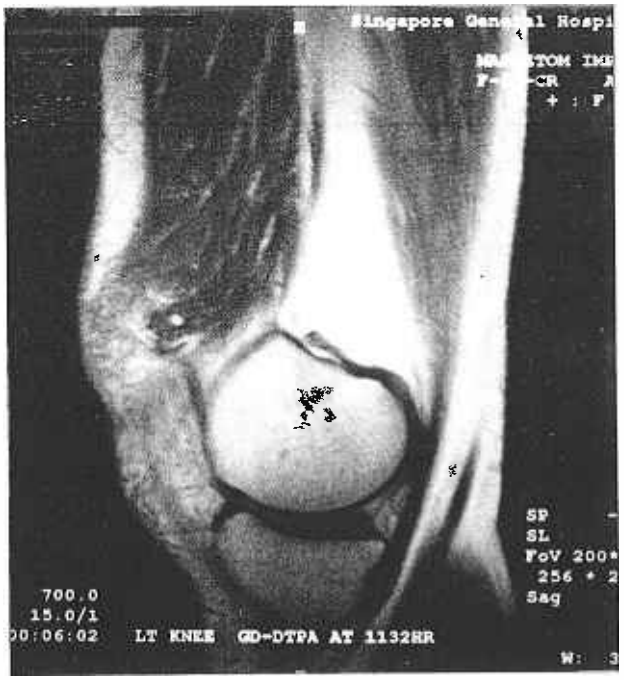


Fig 2 - Cyst wall lined by granulation and fibrous tissue. Small capillaries are present in the cyst wall. (Haematoxylin and Eosin, Magnification x 100)

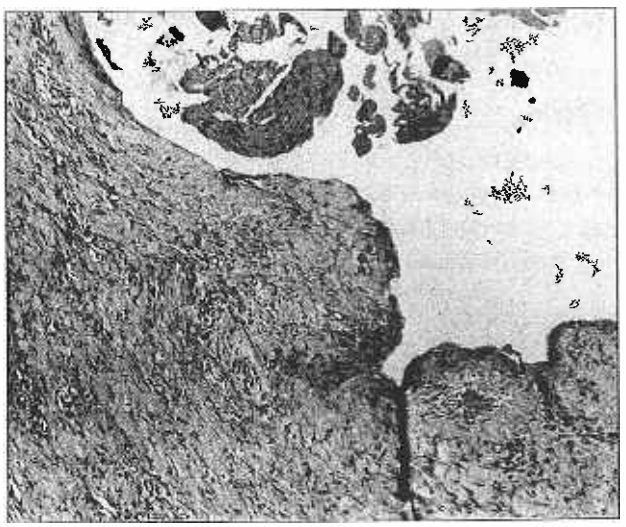
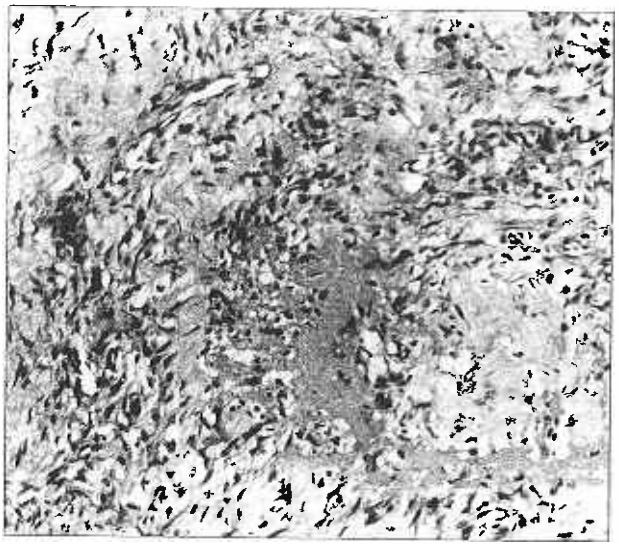


Fig 3 - Small and large vessels are seen in the wall of the cyst. (Haematoxylin and Eosin, X200)



The postoperative functional recovery was uneventful. On 6th May 1991, about three months later, he complained of a tender suprapatellar swelling measuring 2 cm in diameter in the left knee. The symptoms and signs were almost similar to those of the right knee and a diagnosis of haemangioma was made. He was treated with rest and analgesics. There was no improvement and the lesion increased in size. This lesion was explored on 21st July 1991 but no definite mass was found. A swollen Vastus Medialis muscle at the insertion into the patellae with fibrofatty infiltration was noted during operation. Muscle biopsy showed an haemangioma with areas of haemorrhage and granulation tissue.

His functional recovery was slow and three months later, the patient complained of swelling at the previous operation site. Exploration of the lesion revealed a dense fibrotic mass overlying the quadricep tendon. Histologically, this was a bursal cyst lined by fibrinous exudate with focal synoviocyte-like cell hyperplasia. Postoperatively, there was a residual diffuse swelling in the suprapatellar region, with pain and limited knee movements. The symptoms and signs were similar to reflex sympathetic dystrophy.

The swelling was observed closely but became larger and more painful. In January 1992, a CAT scan of the area showed muscular and soft tissue thickening in the suprapatellar region consistent with post-surgical changes. But in view of the clinical severity of the symptoms, exploration of the lump was performed and an intramuscular haemangioma was found in quadriceps muscle and subcutaneous tissue. Wide excision of the lesion was done. Symptoms and knee movement improved significantly.

DISCUSSION

Weaver reviewed 142 cases of deep haemangioma involving the lower extremity in 1938 and 21 of these involved the knee joint. These were either involving the synovium, the capsule or both. Those with synovial involvement may present with recurrent effusion after minor trauma with a tendency to ankylosis. The growth of these benign haemangiomata may be enhanced by trauma, infection or pregnancy.

Histologically, cavernous haemangioma forms the overwhelming majority. Wide excision usually results in successful eradication of the tumour. Those in which wide excision is not possible, recurrences are troublesome and result in flexion deformity of the extremity.

The most difficult type of the haemangioma to treat in the extremities is haemangiomatosis. Two subcategories of haemangiomatosis have been identified: (1) extensive haemangiomatosis, and (2) overgrowth of the extremity associated with skin haemangioma. Extensive haemangiomatosis has been further subdivided by Campanacci into three subgroups: (a) wide area or several muscles involvement; (b) haemangiomata in multiple areas of an extremity; (c) diffuse haemangioma.

This case is an unusual illustration of identical haemangioma developing acutely in both knees and with similar symptoms and signs. In addition, as widely known, clinical diagnosis was not made without histology. The unique feature was that there was sequential involvement of both knees. The reason why it was bilateral and why they appeared after an episode of trauma is not known for certain but we postulate that these were preexisting lesions which grew in response to an initiating injury.

The result of excision of the right knee lesion was good but the lesion in the left knee proved extremely difficult to manage and it improved only after surgical excision at the third attempt. It would appear that treatment for such cases is complete excision. Failure to achieve this, results in recurrence of the lesion with its attending morbidity.

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