



## RESEARCH ARTICLE

### CAVERNOUS HEMANGIOMA OF KNEE JOINT: A CASE REPORT

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#### ABSTRACT

Hemangioma is rare cause of swelling in knees. If missed, leads to irreparable damage to cartilage of knee. We are reporting a male, 30y with swelling on anteromedial aspect of right knee with deformity since 15 years without proper diagnosis. His laboratory investigations were near normal. X-ray showed reduction of lateral joint space and rarefaction of bones of right knee. Goal is to report such rare cause of knee swelling with creation of awareness of Hemangioma arising in knee so it can be diagnosed early and patient can have good quality cartilage. While diagnosing, Hemangioma should be kept in mind.

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## INTRODUCTION

We are presenting a case report of Hemangioma of Knee joint. In world literature, nearly about 200 such cases of Hemangioma of Knee joints have been reported so far<sup>1</sup>. As this is a rare entity, diagnosis of swelling in this patient had not been established since 15 years and he was suffering from pain, swelling, stiffness in his right knee joint and difficulty in sitting cross legs and in squatting position.

## CASE REPORT

Knee joint is involved less commonly due to Hemangioma and even rarely found in elbow, wrist and ankle joints<sup>2</sup>. In Hemangioma patients, swelling of knee joint is sometimes associated with pain and rarely restriction of movement. There are mainly two distinct varieties seen in Knee Hemangioma: (A) Synovial Hemangioma (B) Arteriovenous malformation (Hemangio-hamartoma)<sup>3</sup>. These both types of Hemangiomas will ultimately lead to destruction and degenerative changes in cartilage of knee joint as it is a rare entity and difficult to diagnose early.

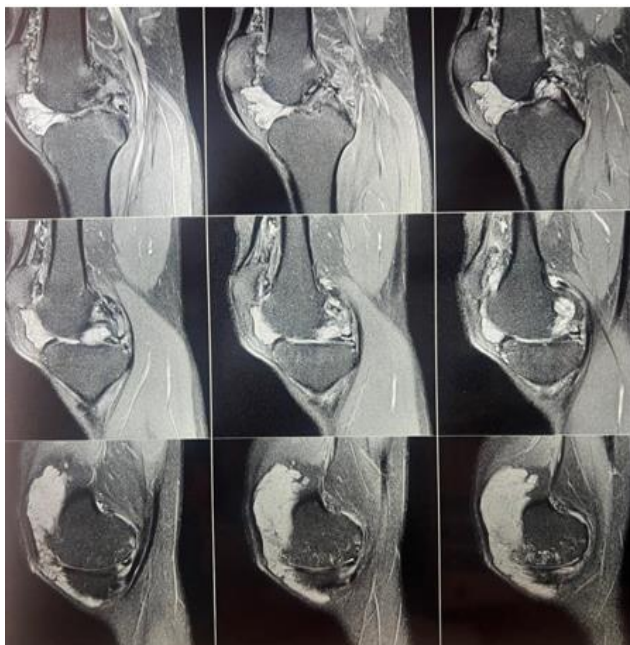
This patient was a 30 years old male complaining of swelling in the anteromedial aspect of the right knee joint for the last 15 years. He did not have many complaints in early years but gradually he developed pain, restriction of movements of the right knee joint, and difficulty in sitting in cross legs position and squatting position for the last 2-3 years. On examination, his swelling of right knee joint measured about 7 cm x 4 cm x 3 cm on anteromedial aspect, which was soft and reducible on compression and refilled after removal of compression. His flexion movement of knee joint was painful and was from 0° to 90° while he had full extension movement.

His x-rays were not very remarkable, but early degenerative changes were visible in AP view in the lateral compartment with a slight reduction of joint space and diffuse rarefaction of bones. MRI of right knee joint revealed an altered intensity large mass in anteromedial aspect of knee joint which was extending up to supra patellar pouch; suggestive of a soft tissue benign lesion most probably a Hemangioma. He was explained the most probable diagnosis for his condition and he agreed to undergo surgery for excisional biopsy. He was given spinal anaesthesia and supine position over a standard operative table. Painting and draping of whole lower limb was done and a tourniquet was inflated. 12 cm incision was put

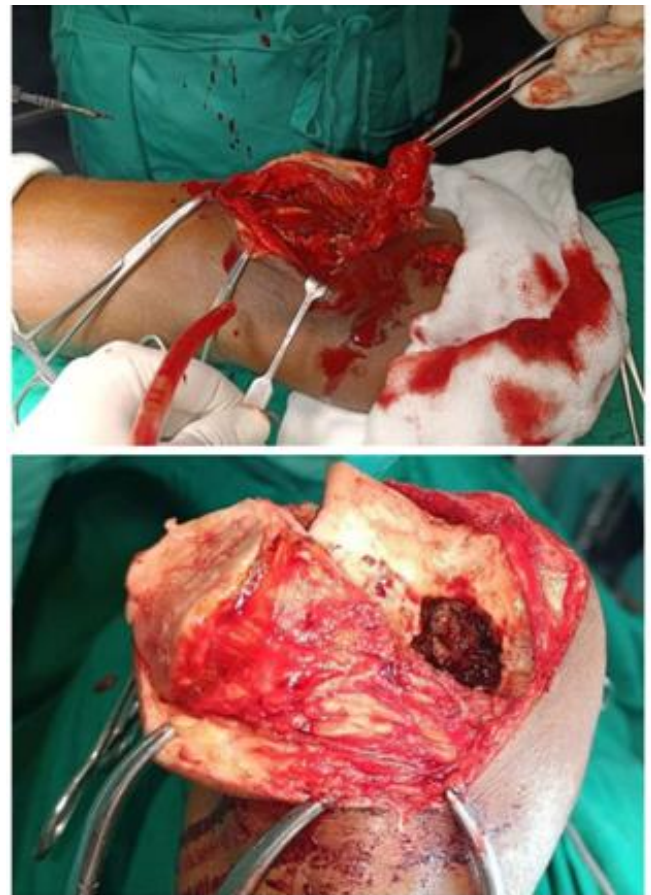
over the anteromedial aspect of the knee joint longitudinally centering patella. Subcutaneous dissection was carried out and mass was meticulously approached from all directions. Proper excision was carried out of soft tissue mass and meticulous haemostasis was achieved. His patella was everted and knee joint was flexed. This manoeuvre revealed a cartilage defect of about 2 cm x 1 cm in medial femoral condyle inferiorly. There were also rough areas due to degenerative changes seen in femoral condyles, tibial condyles, and patella articular surface. This was the cause of restriction of movement and pain while sitting cross legs and in the squatting position of patient. Thorough excision of soft tissue mass was done from knee joint and a wash was given. Meticulous repair of quadriceps tendon was done and closure of wound was done after putting drain. The compressive dressing was applied and brace was given post operatively. Soft tissues were sent for biopsy. Histopathological examination revealed Cavernous type of Synovial Hemangioma of the knee joint. Postoperatively patient was advised physiotherapy with stitch removal after 2 weeks. He was also advised regarding probable surgery in future for cartilage loss.



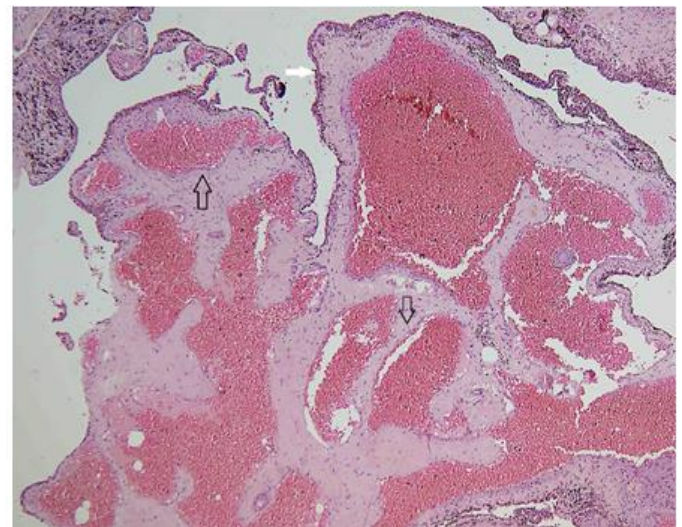
**Figure 1. X-Ray of Right knee shows decreased joint space in lateral compartment**



**Figure 2. MRI of Right knee shows altered intensity large mass in anteromedial aspect suggesting benign lesion**



**Figure 3. Intraoperative image of Hemangioma and cartilage destruction**



**Figure 4 H & E stain, 4x: Section reveals lesion with papillary hyperplasia of synovial lining (white arrow) with multiple vascular spaces lined by flattened endothelial cells & filled with red blood cells (black empty arrows)**

## DISCUSSION

As a Hemangiomas in knee joint is a very rare condition and world over nearly 200 cases only were reported, literature is very limited for this condition<sup>4</sup>. Many authors have reported different signs and symptoms with many methods of treatment. In 1949, Julian E. Jacobs et al<sup>5</sup> had noted in his paper "Articular hemangiomas can be diagnosed prior to surgery in practically all cases, provided the correlation between the

clinical picture and the pathological process was fully appreciated. These signs are significant: 1. The presence of a circumscribed mass, which is covered by normal skin and which increases in size when the extremity is in the dependent position. 2. The presence of blood after puncture of the mass. 3. The disappearance of the contrast substance roentgenographically after injection into the vascular area. Surgical excision offers excellent end results.”

In our patient, there was no history of any trauma, involvement of other joints or infection. This patient was suffering from pain, stiffness and swelling. His all other laboratory investigations including blood coagulation profile were normal. In most such cases, x ray reveals no abnormality but the MRI is diagnostic. Many other methods of treatment apart from surgical excision have been tried, like radiotherapy, arthroscopic laser ablation, etc. but surgical excision of large Hemangioma is the most appropriate and successful method<sup>6</sup>. If in this patient, early diagnosis and surgical excision of knee Hemangioma had been done, it could have prevented much damage to articular cartilage of his knee joint.

## CONCLUSION

Swelling of knee joint due to Hemangioma is very rare condition and it has to be kept in mind as a differential diagnosis where soft, reducible swelling in knee joint is encountered. To prevent grievous injury to articular cartilage of knee joint, early diagnosis has to be made on clinical grounds and then confirmed with MRI as well as excisional biopsy of such swelling.

Two standout features of Hemangioma are localization to one part of the joint (asymmetry) and reducibility with elevation and sustained pressure. Early excision of Hemangioma of knee joint can restore the normal function of knee joint and very much reduce possibility of future knee joint replacement due to arthritis.

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