



# Post-Traumatic Synovial Haemangioma of the Elbow: An Incidental Finding in a Secondary Health Facility in Benin City, Nigeria

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**DOI: 10.47760/cognizance.2022.v02i10.001**

## Introduction

Synovial haemangioma is a rare clinical condition which refers to abnormal proliferation of blood vessels in the synovia membrane of a joint. This usually arises in tendon sheaths, synovial membranes of joints or bursae. The lesion is a benign vascular neoplasia was first described by Bouchut in 1856 that occur most frequently around the knee.<sup>1-5</sup> Trauma has been reported as an Aetiological factor in the formation of post traumatic synovial haemangioma in young adults.<sup>6,7,8</sup> The granulation tissues formed following minor trauma to muscle and joint may cause proliferation and infiltration endothelial tissues and subsequently enlarges and grows into vascular tumours.<sup>9</sup> Post traumatic Synovial haemangioma of the elbow usually mimics other lesions as bursitis. This case was an incidental finding of synovial haemangioma of the elbow following trauma in a young adult.

## Case Report

A 40 year old man, who presented in the surgical out-patient clinic of a secondary health facility in Benin city, Edo state, Nigeria with 2 year history of left elbow swelling following accidental trauma. Swelling initially resolved after 2 week post trauma, however he noticed a lump on the same site which was initially small about 0.5 centimetres in diameter but progressively increased to about 3 centimetres in diameter. The swelling was painless with no ulceration over the swelling. No other similar swelling in any other part of the body. He was a known diabetic on subcutaneous insulin with good glycemic control.

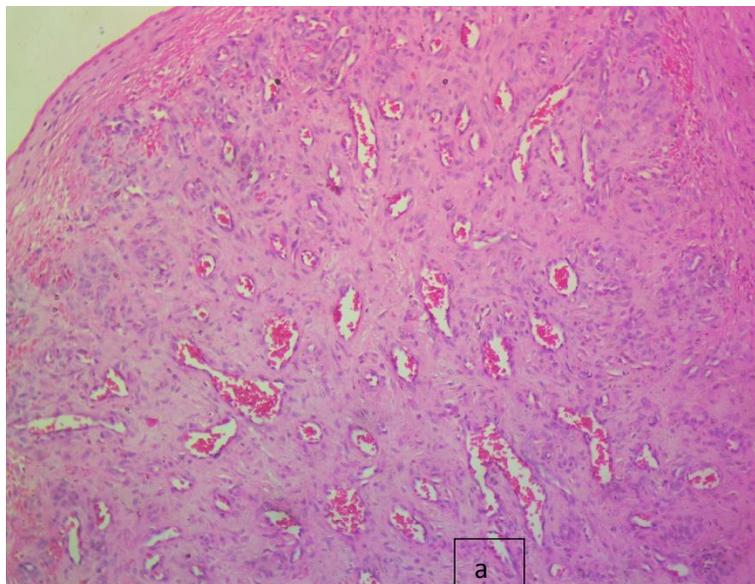
Examination of the lesion showed a cystic mass on the posterior aspect of the elbow joint, soft in consistency without tenderness or differential warmth. There was no pulsation over the mass and no bruit. The regional nodes were not palpably enlarged.

Excision biopsy of the lesion was done. Finding was a blood filled sac with a tuff of tissue attached to the joint. This was excised along with the sac and sent for histology and the wound was closed in layers after securing haemostasis.

### Histopathological Findings:

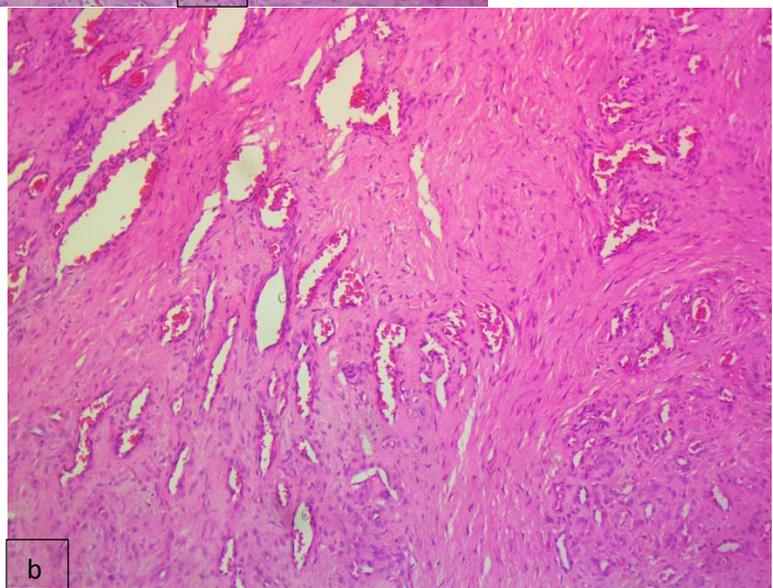
**Macroscopy:** Received is an irregularly shaped tan tissue, firm in consistency and measures 0.6x0.5x0.3cm. Serial cut sections reveal a solid grey homogenous surface with alternating areas of haemorrhage

**Microscopy:** Histologic sections show a benign vascular lesion mainly comprising of numerous small sized leaky capillaries with thin wall, lined by bland endothelial cells and lumen filled with red blood cells. Few hemosiderin-laden macrophages are seen with a dense fibrocollagenous stroma disposed in nodular pattern. A diagnosis of Lobular capillary haemangioma made.



**Figure 1a.** Photomicrograph of histologic specimen showing numerous relatively small sized thin-walled, congested vascular spaces lined by typical endothelial cells disposed within a dense fibrocollagenous stroma. (H&E X40)

**Figure 1b.** Photomicrograph of same specimen showing the nodular architecture of the vascular lesion. (H&E X100)





**Figure 2.** Picture of the patient showing the right elbow swelling just before surgery

## Discussion

Synovial haemangioma occurs commonly in children and adolescents. It is commonly found in males. Common sites of this lesion include the knee joint (60%), the elbow (30%), and the finger (10%). Most studies done on synovial haemangioma show that the lesion involves knee joint more often than any other joint in the body; Devaney *et al* reported 20 cases of synovial haemangioma, of which only six involved the elbow joint<sup>2,10</sup>.

The dominant histologic patterns of synovial haemangioma include; cavernous haemangioma (50%), lobular capillary haemangioma (25%), arteriovenous haemangioma (20%), and venous hemangioma (5%)<sup>10</sup>

Other possible differentials for consideration may include synovial sarcoma, pigmented villonodular synovitis (PVNS), synovial chondromatosis, tuberculous arthritis, inflammatory arthritis, ganglion cyst, lipoma arborescence and hemophilic arthropathy<sup>11,12</sup>

How synovial haemangioma originates is not clear, however there are suspicions that it merely represent late stages of post-traumatic lesion, or are true neoplastic vascular proliferation. Initial clinical presentation often include pain, joint swelling and recurrent joint effusion, with or without limitation of motion<sup>13</sup>

The preferred diagnostic modality is MRI, which goes beyond delineating the lesion, however, final diagnosis is only made on histopathology<sup>13</sup>. Though this patient could not afford the privilege of doing MRI, but histology of the sample taken after surgery confirmed the diagnosis.

The gold standard of treating synovial haemangioma is surgery, though recurrence rates after surgical removal are higher for lesion with diffuse involvement as against that of a discrete lesion<sup>14</sup>

## Conclusion

Synovial are rare benign vascular lesion whose origin not certain but may be either be post-traumatic or arise de novo. It mostly affecting the knee joints, closely followed by elbow joint. Confirmatory diagnosis is best made on histology, and the gold standard for treatment remains surgery though there is risk of recurrence.

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