

# Venous Malformation (Cavernous Hemangioma) of Great Saphenous Vein: A Rare Entity

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## Abstract

Cavernous hemangioma is a collection of dilated blood vessels that form a lesion. These are more common in the liver followed by brain and in the eye. Cavernous hemangioma in the region of the great saphenous vein is a very rare occurrence. According to the International Society for the study of vascular anomalies, cavernous hemangiomas are slow flow venous malformations. Here, we are reporting a rare case of cavernous hemangioma of great saphenous vein and how we managed it.

**Key words:** Cavernous hemangioma, Great saphenous vein, Rare

## INTRODUCTION

Cavernous hemangiomas are also called cavernous angiomas, cavernomas, or cerebral cavernoma (when referring to the presence in the brain). They may be sporadic or familial. In familial form, it may be due to loss of one of three genes – CCM1/KRIT1, CCM2/Malcaavernin, and CCM3/PDCD10.<sup>[1]</sup> They commonly involve regions of the head, neck, and viscera but saphenous vein cavernous hemangioma is a rare condition.<sup>[2]</sup>

According to the International Society for the Study of Vascular Anomalies (ISSVA), cavernous hemangiomas are considered as slow flow venous malformations.<sup>[3]</sup>

## CASE REPORT

A 60-years-old male patient presented with complaints of swelling in the left leg which started as a small swelling insidious onset, gradually progressed to the present size of 5 × 3 cm for 6 years. Swelling increases on standing/

walking and reduces on lying down. Not associated with pain or loss of sensation.

## On Examination

A solitary and oval-shaped swelling of size 5 × 3 cm located approximately 10 cm proximal to medial malleolus over the medial aspect of the right leg [Figure 1a].

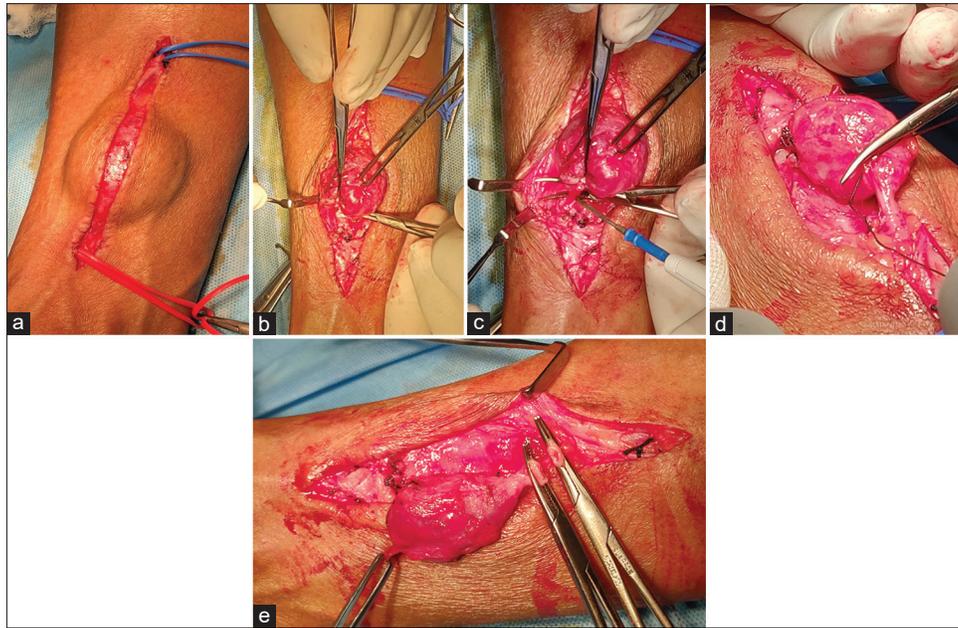
The swelling was soft, compressible [Figure 1b], non-tender, and non-pulsatile swelling. The skin over the swelling was normal and free from swelling. Magnetic resonance angiogram was done which showed peripheral nerve sheath tumor/venous malformation.



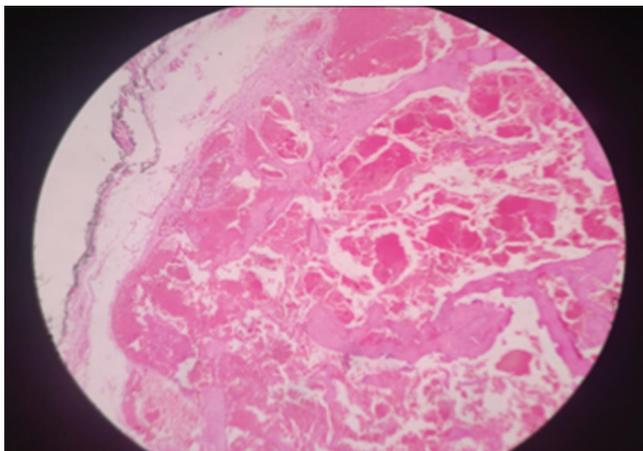
Figure 1: (a) Swelling over the left lower limb (b) Demonstration of compressibility of swelling

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**Figure 2: Operative procedure of cavernous hemangioma: (a) Incision over the swelling. (b) Swelling was isolated from the surrounding tissues. (c) Separation of base of the swelling through blunt dissection. (d) Ligation of proximal and distal ends of the swelling. (e) Demonstration that proximal and distal ends of swelling is having a lumen indicating that it is vein**



**Figure 3: Histopathology demonstrating thick walled blood filled channels**

### **Surgery**

Excision biopsy under spinal anesthesia was done.

### **Operative Findings**

5 × 3 cm single cystic swelling was continuous with great saphenous vein with some feeding vessels above and below [Figures 2a to 2e].

### **Histopathology**

A well-circumscribed benign lesion composed of thick and thin blood-filled vascular channels of varying calibers lined by plump endothelial cells which suggests that it is cavernous hemangioma (venous malformation) of the right leg [Figure 3].

## **DISCUSSION**

Cavernous hemangioma is a collection of dilated blood vessels that form a lesion. They can arise nearly anywhere in the body where there are blood vessels. Most cases are thought to be congenital and when there is no definitive cause, research shows that genetic mutations result in onset. They develop due to abnormal cell proliferation, which is influenced by hormonal and growth factors.

These are most common in the liver and can also occur in the brain, spinal cord (cerebral hemangiomas), and the eyes (eye cavernous hemangiomas).<sup>[4]</sup> They can be seen in any age group, but the majority are found in those between the ages of the third to sixth decade of life.<sup>[4-6]</sup> Cavernous hemangioma in the region of the Great saphenous vein is a very rare occurrence.<sup>[2,7]</sup>

Ultrasonography is the first line in diagnostic imaging. Gradient T2WI magnetic resonance imaging is the most sensitive method for diagnosing cavernous hemangiomas.<sup>[4]</sup> Resection is the mainstay treatment for this condition. Sclerotherapy is the non-operative management of cavernous hemangioma. Sclerotherapy is performed with lesser formulations (95% or 90%) of concentrated ethanol and sodium tetradecyl sulfate.<sup>[2,8]</sup>

Cavernous hemangioma is not a vascular tumor but rather a vascular anomaly. According to the ISSVA, vascular malformations are subdivided into a high and low flow and

within these categories, lesions are defined by components as arterial, venous, and mixed. By definition, venous malformations are slow flow and low-pressure venous spaces. Based on this, cavernous hemangioma is termed as slow venous malformation.<sup>[9,10]</sup>

## CONCLUSION

Venous malformations of the great saphenous vein are a rare condition. Diagnosis will be based on clinical and radiological findings combined. One should not depend on radiological findings as they are not always reliable, which is seen in our case. A strong clinical suspicion should be present even though it is a rare entity.

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