

# A Case Report of an Unusual Case of Cavernous Hemangioma at Retro-calcaneum Region

Ashutosh Chandraprakash Tripathi<sup>1</sup>, Rajendra Wamanrao Baitule<sup>1</sup>, Yogesh Bhimrao Rathod<sup>1</sup>,  
Ganesh Narayanrao Pundkar<sup>1</sup>, Gaurav Pawan Bhutada<sup>1</sup>

## Learning Point of the Article:

Cavernous hemangioma at an unusual site.

## Abstract

**Introduction:** Subcutaneous hemangioma is a rare variant of slow-flowing venous malformation. It occurs in both adults and children and is more common in women. It exhibits an aggressive growth pattern, can occur anywhere in the body, and may recur after resection. This report shows a rare localization of hemangioma in the retrocalcaneal bursa.

**Case Report:** A female patient, age 31, presented with swelling and pain over the retro calcaneum region for 1 year. The pain in the retrocalcaneal region has increased with gradual intensity over the past 6 months. The swelling she described to be insidious in onset and gradually progressive. Examination findings at presentation were a middle-aged female with diffuse swelling in the retrocalcaneal region with a size of 2 cm by 1.5 cm. Based on the X-ray, we defined it to be myositis ossificans. With this view in mind, we admitted the patient and surgically excised the area. We operated by posteromedial approach and sent the specimen for histopathology. Pathology revealed calcified bursa. Microscopically, it was hemangioma with phleboliths and osseous metaplasia. The post-operative period was uneventful. The patient's pain was reduced, and overall performance was good at follow-up.

**Conclusion:** This case report highlights the importance for surgeons, pathologist to consider cavernous hemangioma as a differential diagnosis for retrocalcaneal swellings.

**Keywords:** Cavernous hemangioma, retro calcaneal region, rare tumor.

## Introduction

Cavernous hemangiomas are congenital vascular anomalies, not vascular tumors [1, 2]. Patients with vascular abnormalities become wanderers due to incorrect diagnosis, treatment complexity, limited outcomes, and lack of individual physician expertise. Vascular tumors are endothelial tumors characterized by increased endothelial turnover. Malformations are the result of the abnormal development of vascular elements during embryogenesis [3, 4, 5, 6]. Calcification in vascular

malformations is a common finding [7, 8, 9, 10]. However, ossification within limb malformations is rarely reported. Subcutaneous hemangioma is a rare variant of slow-flowing venous malformation. It occurs in both adults and children and is more common in women [1, 2, 11, 12, 13]. It exhibits an aggressive growth pattern, can occur anywhere in the body, and may recur after resection [1]. This report shows a rare localization of hemangioma in the retrocalcaneal bursa.

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## Author's Photo Gallery



Dr. Ashutosh  
Chandraprakash Tripathi



Dr. Rajendra Wamanrao  
Baitule



Dr. Yogesh Bhimrao  
Rathod



Dr. Ganesh Narayanrao  
Pundkar



Dr. Gaurav Pawan Bhutada

<sup>1</sup>Department of Orthopaedic Surgery, Dr. Panjabrao Deshmukh Memorial Medical College, Amravati, Maharashtra, India.

### Address of Correspondence:

Dr. Ashutosh Chandraprakash Tripathi,  
Department of Orthopaedic Surgery, Dr. Panjabrao Deshmukh Memorial Medical College, Panchvati Square, Amravati, Maharashtra, India.  
E-mail: ashutoshckv.95@gmail.com

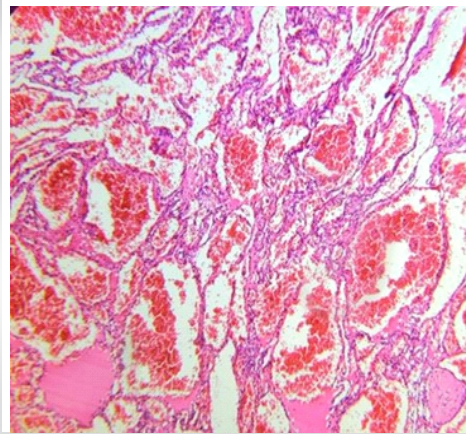
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**Figure 1:** X-ray of the patient (arrow showing the calcific deposits at retrocalcaneal region).



**Figure 2:** Microscopic picture of the sample collected (Hemangioma along with osseous metaplasia).

**Case Presentation**

A female patient, age 31, presented with swelling and pain over the retro calcaneum region for 1 year. The pain in the retrocalcaneal region has increased with gradual intensity over the past 6 months. The intensity of the pain increased while walking and doing routine activities such as squatting and prolonged standing. The swelling she described to be insidious in onset and gradually progressive. No similar swelling was noticed in other parts of the body. No prior history of trauma was obtained; neither was there any weight loss, malaise, bone pains, nor a family history of similar pathology. Examination findings at presentation were a middle-aged female with diffuse swelling in the retrocalcaneal region with a size of 2 cm by 1.5 cm. With a background of this history, we suspected the patient to have some condition related to the retrocalcaneal bursa, most commonly to be retrocalcaneal bursitis. Plain radiographs of the region showed soft-tissue calcifications in the Tendo-Achilles region (Fig. 1). Based on the X-ray, we defined it to be myositis ossificans. With this view in mind, we admitted the patient and surgically excised the area. We operated by posteromedial approach; sural nerve was identified (Fig. 2); excision of the mass was done and sent the specimen for histopathology (Fig.

3), calcified deposits were completely removed, Post-operative X-ray of ankle was taken (Fig. 4).

Pathology revealed calcified bursa. Microscopically, it was hemangioma with phleboliths and osseous metaplasia (Fig. 5). The post-operative period was uneventful. The patient's pain was reduced and overall performance was good at follow-up.

**Discussion**

Hemangiomas are hamartomatous growths of endothelial tissue [1, 2]. They are the most common hemangiomatous lesions, accounting for 7% of all benign soft-tissue tumors in the general population. Hemangiomas are most commonly diagnosed soft-tissue tumors and can be classified clinically as capillary or cavernous [6]. Cavernous hemangiomas are tumors formed by vasodilatation. They can be found deeper in the skin and mucous membranes but also affect deeper structures such as subcutaneous tissue, muscles, and bones. Hemangiomas are focal or diffuse [4].

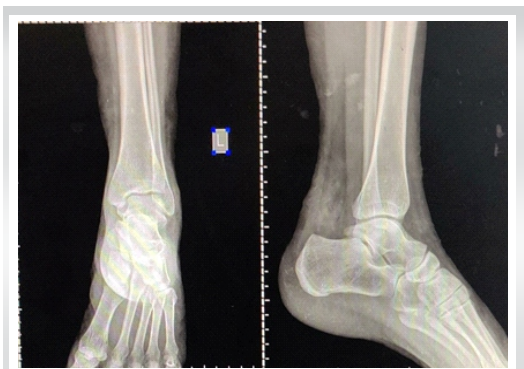
Subcutaneous cavernous hemangiomas are rare. There is little literature, mostly case reports. Unlike other benign tumors, the life cycle of hemangiomas differs in that there is a period of rapid growth followed by spontaneous regression. This is especially true for the capillary and cutaneous spongy variants, although deep spongy types rarely regress, and malignant transformation is rare. To date, many reported cases of intramuscular hemangiomas were vascular malformations of skeletal muscle, and thus subcutaneous cavernous hemangioma and vascular malformations were rarely understood as separate entities. Mulliken and Glowacki described in their studies that vascular



**Figure 3:** Gross pathology of the specimen.



**Figure 4:** Perioperative photograph of the location of the swelling (Instrument is lifting the sural nerve behind which the tumor was present).



**Figure 5:** Post-operative X-ray of ankle anteroposterior and lateral view after excision.

malformations and hemangiomas, characterized by endothelial hyperplasia or increased mitotic activity, develop in the late fetal or early neonatal period and proliferate [14].

Furthermore, it emphasized that it usually regresses. Hemangiomas are often asymptomatic, but symptoms are usually due to pain, mass or soft-tissue swelling, subcutaneous discoloration, cosmetic concerns (by the parent or patient), and nerve entrapment. It is caused by neurological symptoms secondary to clinical examination, usually revealing soft masses of various shapes, swaying without swaying or changing warmth, soft and empty with ill-defined boundaries, thrilling, and masses. A murmur may be heard over the thorax. Radiological evaluation includes a plain X-ray showing soft-tissue swelling without bony involvement or calcification. Magnetic resonance imaging shows densely lobed masses of mixed intensity. Computed tomography shows a homogeneous mass with large feeding vessels with intensive and sustained administration of contrast agents. Ultrasonography with Doppler studies is an inexpensive, non-invasive technique that shows the high-flow pattern characteristic of hemangioma and distinguishes it from the low-flow pattern of vascular malformations. Treatment of hemangiomas is initially conservative and requires observation and regular evaluation. Modalities include cryotherapy, radiotherapy, laser therapy,

subcutaneous injections of recombinant interferon-alpha, sclerosing agents, and intralesional corticosteroids, double-induced sclerotherapy with bubble injections, and angiographic embolization is available [3, 4, 5, 15, 16]. All have been tried with varying results. Surgical resection with ligation of afferent vessels is the optimal management of intramuscular hemangioma to prevent a recurrence. Indications for surgery include a gradually increasing mass or swelling, pressure pain and neuropathy, and significant cosmetic concerns. A structured post-operative rehabilitation protocol improves limb function and prevents joint stiffness.

### Conclusion

This case report highlights the importance for surgeons, pathologist to consider spindle cell hemangioma as a differential diagnosis for retrocalcaneum swellings.

### Clinical Message

Diagnosing the cavernous hemangioma at an unusual site like retro calcaneal region is challenging this may influence the management and planning for the surgeon; hence, a detail evaluation is essential.

**Declaration of patient consent:** The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given the consent for his/ her images and other clinical information to be reported in the journal. The patient understands that his/ her names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

**Conflict of interest:** Nil **Source of support:** None

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**Consent:** The authors confirm that informed consent was obtained from the patient for publication of this case report

#### How to Cite this Article

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