

# Giant Cavernous Hemangioma of the Hand in an Adult: Case Report

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## ABSTRACT

**Introduction:** Hemangioma is an abnormal proliferation of blood vessels that can occur anywhere in the body. The cavernous hemangioma of the hand tends to invade deep tissue and can cause palmar deformity and hand functional limitation caused by the progressive tumor growth.

**Case Presentation:** We reported a 70-year-old man with a cavernous hemangioma on the left hand. We performed surgical excision with good results.

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## Introduction

Hemangioma is a benign vascular neoplasm. Intramuscular cavernous hemangiomas in the extremities are uncommon (0.8% of hemangiomas)[1]. Surgical excision is recommended for cavernous hemangiomas, as they are less likely to regress spontaneously. The size of the lesion may vary, making surgical excision a challenging procedure.

## Case

The patient is a 70-year-old man with complaints of swelling and dull pain in the first web space of his left hand (Figure 1). The patient first noticed the swelling 2 years earlier, but it gradually increased in size. He denied a history of trauma to the hand. On examination, the swelling was palpable in the first web space and had a soft to firm consistency. Hand functions were normal. In the ultrasound examination of the hand lesion, a vascular plexus including dilated and tortuous veins was observed on the posterior surface of the hand between the first and second fingers. Calcified foci were observed scattered in the above lesion, which is in favour of hemangioma (Figure 2). He underwent a complete surgical excision of the mass. Surgical exploration revealed a 5×4 cm red tumor with irregular borders (Figure 3). Histological examination showed proliferating blood vessels lined with a layer of endothelium filled with blood. This finding was consistent with cavernous hemangioma (Figure 4). The patient recovered well without any recurrence after one year.

## Discussion

Hemangiomas are benign vascular lesions that account for 7% of all benign soft-tissue tumors [2]. Hemangiomas are more common in children. Presentation in adults is highly unusual. Progressive enlargement of the mass and pain are the most common symptoms. Hemangiomas may be solitary or multiple. The size of hemangiomas may remain stable, slowly grow, or undergo spontaneous regression over time. Histologically, they are classified into capillary, arteriovenous, and cavernous types. Cavernous hemangiomas are frequently intramuscular, unlike other hemangiomas. Intramuscular hemangioma can present with thrombosis, ulceration, and infection. Cavernous hemangioma can cause functional and morphological changes in involved organs due to its size, requiring treatment. The differential diagnosis of cavernous hemangioma consists of soft tissue sarcoma, schwannoma, neurofibroma, and peripheral nerve

sheath tumor. The cavernous hemangioma of the hand tends to invade deep tissue[3]. Cavernous hemangiomas may be locally destructive due to pressure on neighboring structures[4]. The best Imaging modalities used to evaluate these lesions are magnetic resonance imaging (MRI). Surgery is the treatment of choice, especially in large hand cavernous hemangiomas. Sometimes, preoperative embolization is used to decrease blood loss during the operation. The hand is a highly specialized organ and has complex anatomy. Therefore, care must be taken to avoid damaging these anatomies during a surgical procedure. The prognosis is excellent.

## Conclusion

A correctly planned and safe resection in the vital location of the mass is crucial for achieving good results after surgery. MRI is the preferred imaging modality for assessing the extent of the lesion. The most common treatment is wide surgical excision.

## Consent for Publication

Not applicable, as this study does not involve patient data requiring informed consent.

## Ethics Approval and Consent to Participate

There was no ethical declaration.

## Authors' contributions

All authors contributed equally and approved the final version of the manuscript.

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## Data Availability Statement

The data and materials supporting the findings of this study are available from the corresponding author upon reasonable request.

## Conflicts of Interest

Authors declare no conflicts of interest.

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