



# Intramuscular Hemangioma of the Hypothenar Eminence: A Case Report

Khulood Al-Dahash<sup>3</sup>, Nafad Elhadidi<sup>1</sup>, Bimaljeet Kaur<sup>2</sup>, Shafik Fwakhri<sup>2</sup>, Mazen Alhaj Ahmad<sup>3</sup>, Hoor Hamidoglu<sup>3</sup>, Abdullah Hajjo<sup>3</sup>, Bousi Abohatab<sup>3</sup>

<sup>1</sup> Departments of Surgery, Zulekha Hospital, Sharjah, UAE; <sup>2</sup> Pathology Department, Zulekha Hospital, Sharjah, UAE; <sup>3</sup> Medical student, College of Medicine, University of Sharjah, Sharjah, UAE

## INTRODUCTION

Intramuscular hemangiomas (IMHs) are noncancerous vascular growths found in striated muscle tissue <sup>1-3</sup>. They comprise about 0.8% of all benign soft tissue tumors <sup>2</sup>. It's mainly male predominant with peak incidence in young adults. <sup>1,3</sup> The common site of occurrence is mainly the thigh (36%) and calf (17%); however, it's rare to present in the hand, particularly in the hypothenar eminence <sup>2</sup>. The aetiology remains unclear, could be due to trauma-induced or arising from a mature thrombus <sup>2</sup>.

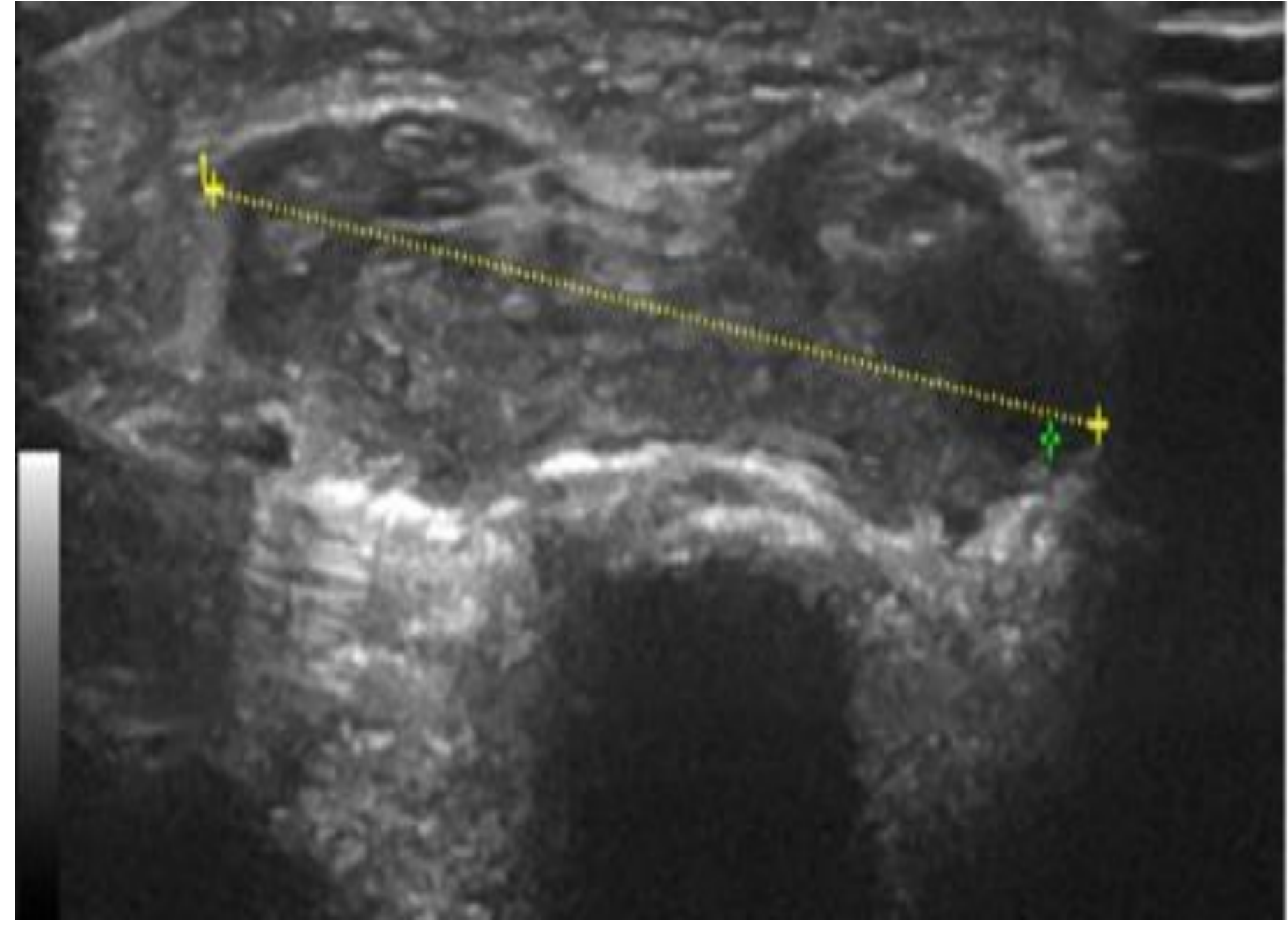
Although IMH usually presents as painless, firm mass within the muscle, symptoms may arise due to the mass-effect resulting in pain, swelling, and numbness <sup>2,4</sup>.

On imaging, IMH resembles other vascular conditions with its invasive and indistinct boundaries and can be misdiagnosed with arteriovenous malformations <sup>1,5</sup>. IMHs are also misdiagnosed with carpal tunnel syndrome (CTS) <sup>6</sup>. Therefore, this case report highlights the need for physicians to be aware of these less common presentations.

## CASE PRESENTATION

We present a case of a 47-year-old female complaining of left-hand discomfort and persistent numbness for 12 months. She had a tingling sensation in her left hand, specifically at the hypothenar area and medial two fingers. No other symptoms were reported. Unremarkable past medical, surgical history and denied any history of trauma. She was previously diagnosed with CTS and treated conservatively; her symptoms did not improve. On physical examination, asymmetry in the size of the hands was noted. Further evaluation showed a compressible mass with mild tenderness in the left hypothenar area. Distal pulses were intact; no bruit was heard. There was no restricted range of motion in the hand.

Figure 1



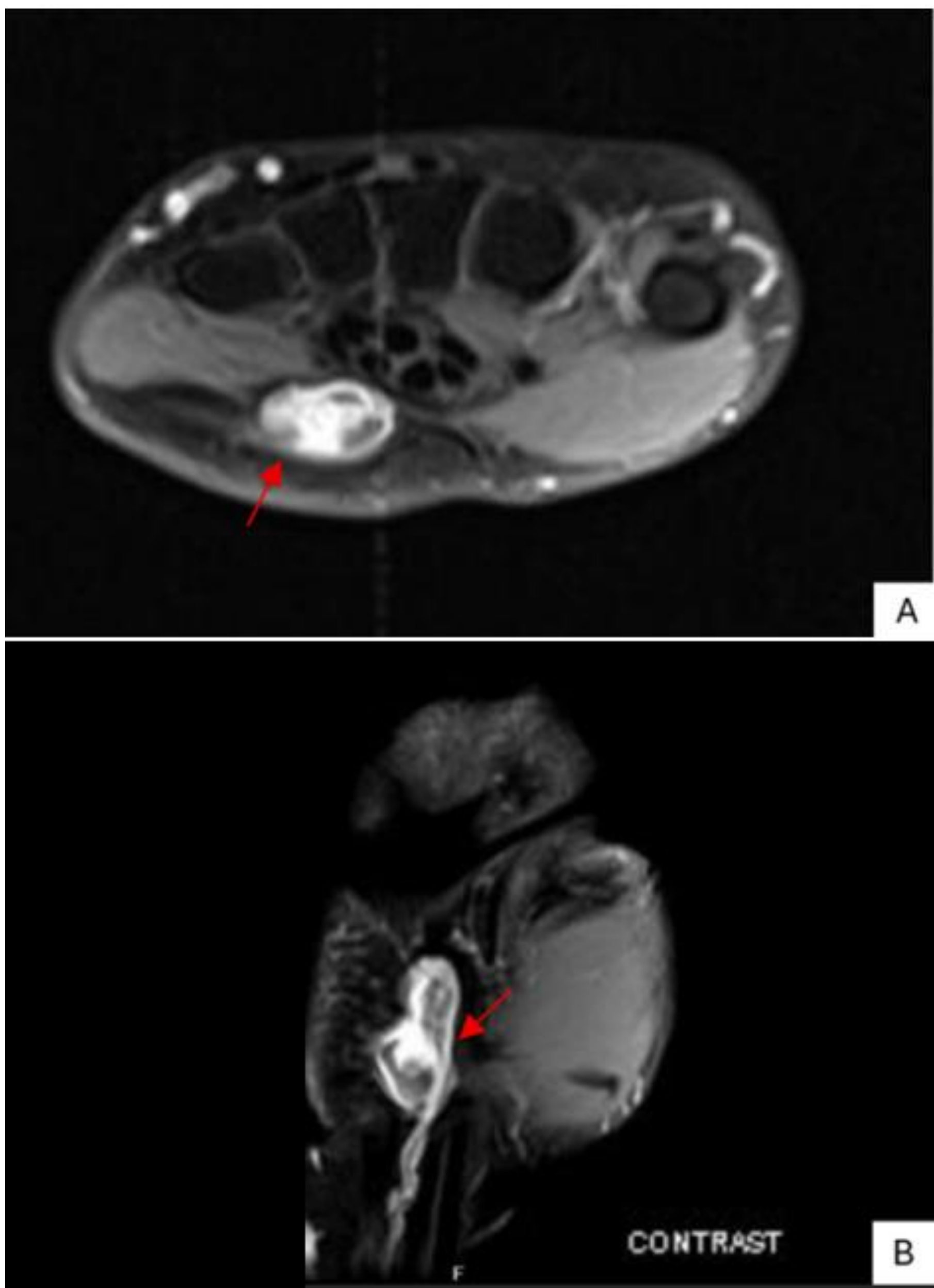
An ultrasound scan showed a 3.4 cm hypoechoic area in the left hypothenar eminence.

## INVESTIGATION

Upon investigations, an ultrasound scan of the left hand showed a 3.4 cm dumbbell-shaped, hypoechoic area with a marked increase in vascularity in the hypothenar eminence suggestive of an IMH (See Figure 1).

The MRI scan demonstrated a 3.3 x 1.2 cm mass of intermediate signal intensity on T1-weighted images, with heterogeneous high signal intensity on T2-weighted and STIR sequences. Following contrast administration, the mass exhibited intense heterogeneous enhancement. A pair of vascular channels extends to this lesion from the distal wrist towards the ulnar aspect (See Figure 2).

Figure 2



T2- weighted MRI scan of the left hand with contrast showing intramuscular hemangioma in both the A. axial and B. coronal view.

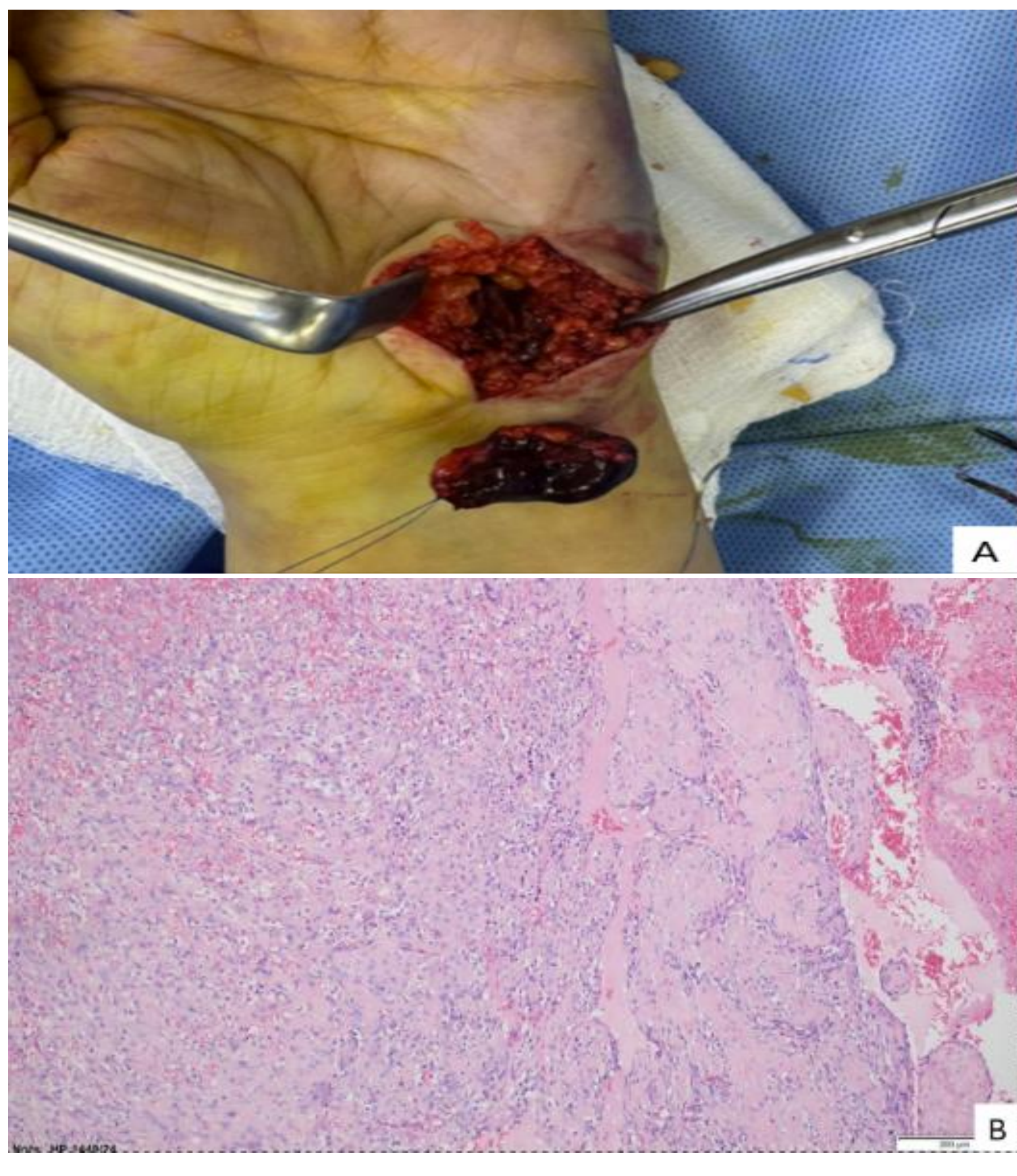
## MANAGEMENT

An excisional biopsy was performed to confirm the diagnosis and rule out malignancy. The lesion was well-circumscribed with a fibrous pseudocapsule. (See Figure 3a). On microscopic examination, the cut sections show a dilated vessel with thrombosis and associated intravascular proliferation of reactive endothelial cells forming numerous papillary structures with a fibrin core lined by a single layer of plump endothelial cells (See Figure 3b). Malignancy was ruled out and a diagnosis of intravascular papillary endothelial hyperplasia, commonly known as Masson's hemangioma was established. On follow-up, the patient had no complaints.

## OUTCOME & FOLLOW-UP

At 1-month post-operative follow-up, the patient reported numbness subsided. Recurrence or complications were not reported as it was too early; thus, long-term follow-up is crucial to evaluate any progression. Overall, recurrence is rare, especially with complete excision of the lesion. Prognosis is excellent, as these tumors are benign and do not exhibit metastatic capability

Figure 3



A. Gross pictures of the specimen after excisional biopsy. B. Histopathology (H&E stain) of the specimen resembling Masson's hemangioma.

## DISCUSSION

Diagnosing IMH in the hand requires both clinical and imaging examinations. In some cases, duplex ultrasonography is used to determine the vascular nature of mass, assisting in the diagnosis. Magnetic Resonance Imaging is the gold standard since it offers precise images of the lesion and its extension <sup>3</sup>. After surgical excision, a histological study is performed <sup>1,3</sup>.

## CONCLUSION

Despite IMH being rare and benign, its diagnosis remains a challenge due to their distinct presentation and involvement in complex anatomical sites, such as hypothenar eminence. The management focuses on proper physical examination followed by an MRI scan, then confirmed by excisional biopsy. The most effective treatment is complete surgical excision with safety margins.

This study highlights the importance of being aware of IMH presenting in uncommon sites, often misdiagnosed with CTS, as early and proper diagnosis and management often provide a better quality of life to the patient.

## DISCLOSURES

The authors declared no conflicts of interest. Informed patient consent of publication was obtained.



## REFERENCES