

BACKGROUND

- Intramuscular hemangiomas (IMH) are rare benign vascular neoplasms located within striated skeletal muscle.
- IMHs often are locally aggressive.¹ Infiltration into a muscle group may result in functional impairment due to structural compromise.²
- Upper-extremity (UE) IMHs are especially rare;³ these cases pose a challenge in both diagnosis and treatment.

Case Description

- A 7-year old female was referred to the plastic surgery for a right forearm lesion.
 - Lesion had grown significantly in the past few months, restricting her movement and causing weakness, pain, and tingling (**Figure 1**).
- MRI showed a large intramuscular vascular lesion on the ulnar and volar aspect of the right forearm (**Figure 2**)
 - Complete encasement of the median and ulnar nerves.
- A decision was made to proceed with surgical excision. Both nerves and ulnar artery were carefully dissected free from the mass and preserved (**Figure 3**).
- Five weeks later, a free functional gracilis muscle transfer to the right forearm was performed, sutured to the medial epicondyle proximally and the individual tendons of flexor digitorum profundus.



Figure 1. Pre-operative imaging showing the patient's right forearm mass.

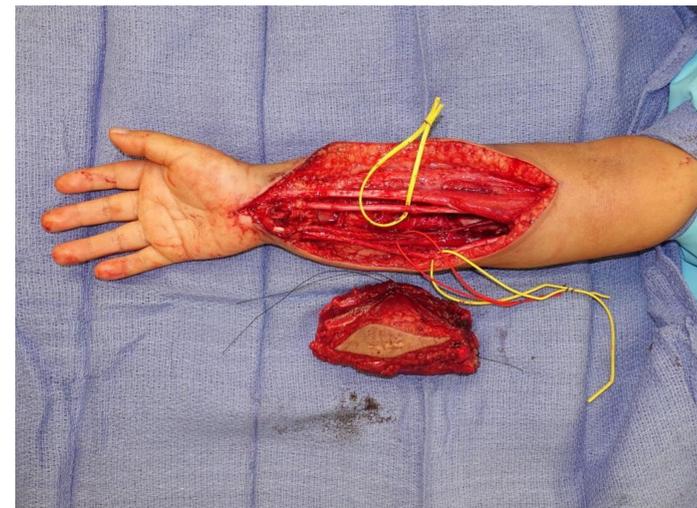


Fig 2: Intraoperative imaging showing en bloc resection of the mass with preservation of the Median and Ulnar nerves.

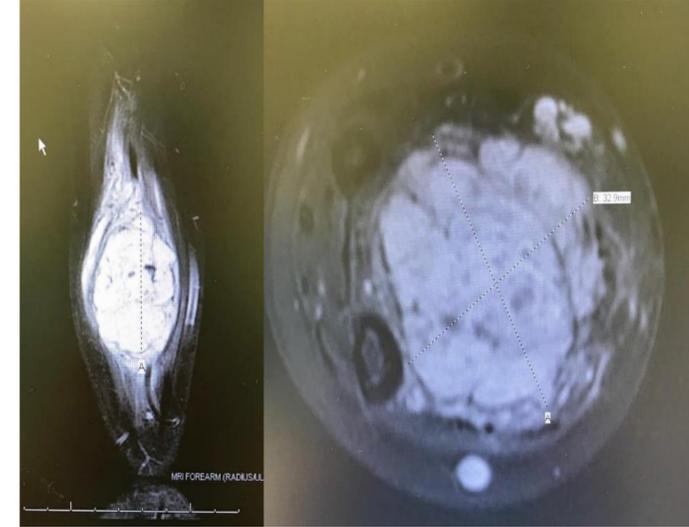


Figure 2 A-B. Magnetic Resonance Imaging demonstrating an intramuscular hemangioma encompassing the entire volar forearm compartment.

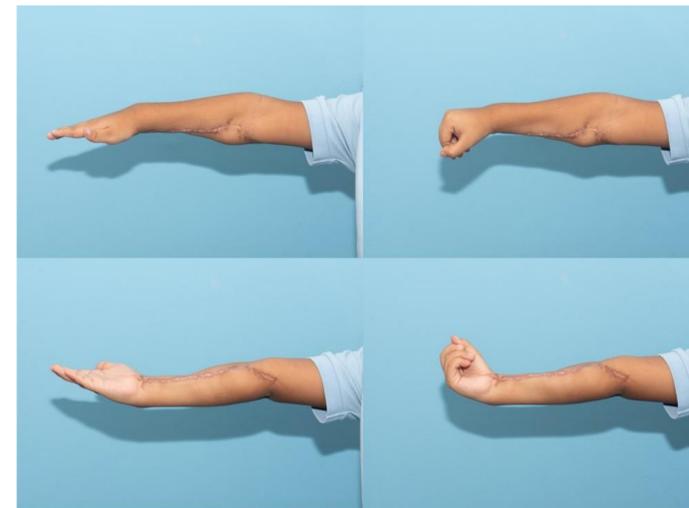


Fig 4: One and a half year postoperatively showing complete healing.

RESULTS

- 1.5 years later, the patient is able to perform a hand punch with active assisted range of motion, and has increased grip strength with a normal flexion cascade. (**Figure 4**).
- Patient has been free of recurrence and is independent in all her activities of daily living (ADLs).

Using PRISMA guidelines, a systematic review was performed to identify papers describing upper extremity IMHs through 2019.

- Successful surgical removal of IMHs is critically dependent on early surgical intervention - complete excision was reported in all 18 (100%) primary cases and 5 (71%) secondary (delayed) cases.
- Early primary excisions demonstrated smaller mass size compared to delayed secondary excisions (19.4 cm² versus 165.3 cm²).

CONCLUSION

- In the case report presented here, en bloc surgical excision and free functional muscle transfer successfully treated the patient's pain and ultimately restored right forearm function.
- Our systematic review suggests early surgical intervention with complete resection may promote lower rates of recurrence and lower rates surgical complications compared to delayed surgery and minimally invasive options.

REFERENCES

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