

Simran Chandawarkar BS¹, Ibrahim Amjad MD, MBA²

¹Northeast Ohio Medical University, Rootstown, OH ²Amjad Plastics, Miami, FL

Introduction

- Congenital hemangiomas are benign vascular tumors fully formed at birth.
- Arise from aberrant endothelial cell proliferation due to mutations in GNAQ or GNA11 genes
- Rapidly involuting congenital hemangiomas (RICH) is a rare subset that completely involutes by age 2
- RICH in vital areas, such as near the eye, mouth, or nose, require immediate treatment.
- RICHs can leave behind epithelial scarring and permanent skin damage.
- Feared complications of RICH are extensive skin breakdown and heart failure.
- Surgical intervention is necessary in these patients to both treat and prevent the worsening of the cutaneous complications.

Case Presentation

Patient Case:

- Neonate with very large rapidly involuting congenital hemangioma on their right arm.
- Transferred to a Level III NICU due to ulceration, tissue loss, and bleeding.

Initial Management/Progression:

- Topical treatments and Apligraf for wound coverage.
- Despite initial improvement, continued tissue loss and wound evolution.
- Integra used for debridement and dermal regeneration.
- Significant scarring led to restricted arm movement as ulcers healed.

Surgical Interventions:

- Z-plasty and grafting was performed to address scar contractures.
- Full range of motion restored post-surgery.

Discharge and Follow-Up:

- The patient was discharged with improved condition.

Images



- Pre-operative: Patient when presenting to plastic surgery, after initial treatment with topical agents, Apligraf and Integra.



- Post-operative: At a follow-up after Z-plasty and graft.
- Ulcers are healed and 100% range of motion restored.

Discussion

- RICHs are generally benign and self-limiting.
- This case was unique in the size and severity of the tumor.
- Traditional treatment using skin substitutes was not successful and surgical treatment was indicated.
- A Z-plasty was chosen for this patient to restore the range of motion across the ulno-humeral joint.
- Also, as he grows up, the scar will be better aligned with skin tension lines and be less visible.

Conclusion

- This case highlights the complexity of managing large RICH with ulceration,
- This case demonstrates the effective use of advanced wound care techniques and reconstructive surgery to restore function and improve outcomes in neonatal patients.

References

- Olsen GM, Nackers A, Drolet BA. Infantile and congenital hemangiomas. *Semin Pediatr Surg.* 2020 Oct;29(5):150969. doi: 10.1016/j.sempedsurg.2020.150969. Epub 2020 Sep 16. PMID: 33069287.
- Brás S, Mendes-Bastos P, Amaro C. Rapidly involuting congenital hemangioma. *An Bras Dermatol.* 2017 Nov-Dec;92(6):861-863. doi: 10.1590/abd1806-4841.20175608. PMID: 29364450; PMCID: PMC5786408.