

EP10.22

Ultrasound-guided intrauterine embolization of a large Vein of Galen malformation

Rodrigo Ruano MD PhD, Ahmed Abdelsalam MD, Oluwateniayo Okpaise MD, Michael Paidas MD, Jayro Toledo MD, Sai Sanikommu MD, Sethuraman Swaminathan MD, Tiffany Eatz MD, Luis Guada MD, Evan M Luther MD, Selina D Patel MD, Gaurav Saigal MD, Sean O' Leary MD, Heather J McCrea MD PhD, Robert M Starke MD
University of Miami, Leonard Miller School of Medicine, & Jackson Memorial Hospital, Miami, Florida

Introduction

Vein of Galen malformation (VOGM) is a rare and complex congenital vascular anomaly that is still associated with severe morbidity and mortality because of cardiac failure and brain lesions.

Case Presentation

A fetus with extremely large VOGM was referred to our Fetal Center at 36 weeks' gestation. In our center, fetal cardiac evaluation showed fetal cardiomegaly with early signs of fetal cardiac distress, but no fetal hydrops and no fetal brain lesions. After multidisciplinary evaluation and approval from the Fetal Ethical Boards, an intrauterine embolization of fetal VOGM was offered and performed successfully under ultrasound-guidance at 37 weeks' gestation. The VOGM was coiled in approximately 70% immediately after the procedure and approximately 80% before birth. A male infant weighing 3710 g, Apgars 8/9/9 was delivered by elective cesarean section at 39 weeks' gestation. The newborn demonstrated normal cardiac function and respiratory function and was discharged home without needing any procedure. The baby had a complete embolization of the remnant of the VOGM at 12 months of age.

Conclusion

Ultrasound-guided intrauterine embolization of a large Vein of Galen malformation is feasible and may improve the outcome for babies affected with this anomaly. Further prospective trials are necessary.

Keywords: Aneurysmal malformations; Coil; Congenital abnormalities; Embolization; Intrauterine procedures; Transuterine; VGOM; Vein of Galen

Ruano R, Abdelsalam A, Harris S, Okpaise O, Paidas M, Toledo J, Sanikommu S, Swaminathan S, Eatz T, Guada L, Luther EM, Patel SD, Saigal G, Leary SO, McCrea HJ, Starke RM. Ultrasound-guided transuterine coil embolization of a Vein of Galen malformation. Clin Neurol Neurosurg. 2025 Feb;249:108682. doi: 10.1016/j.clineuro.2024.108682. Epub 2024 Dec 7. PMID: 39667225.

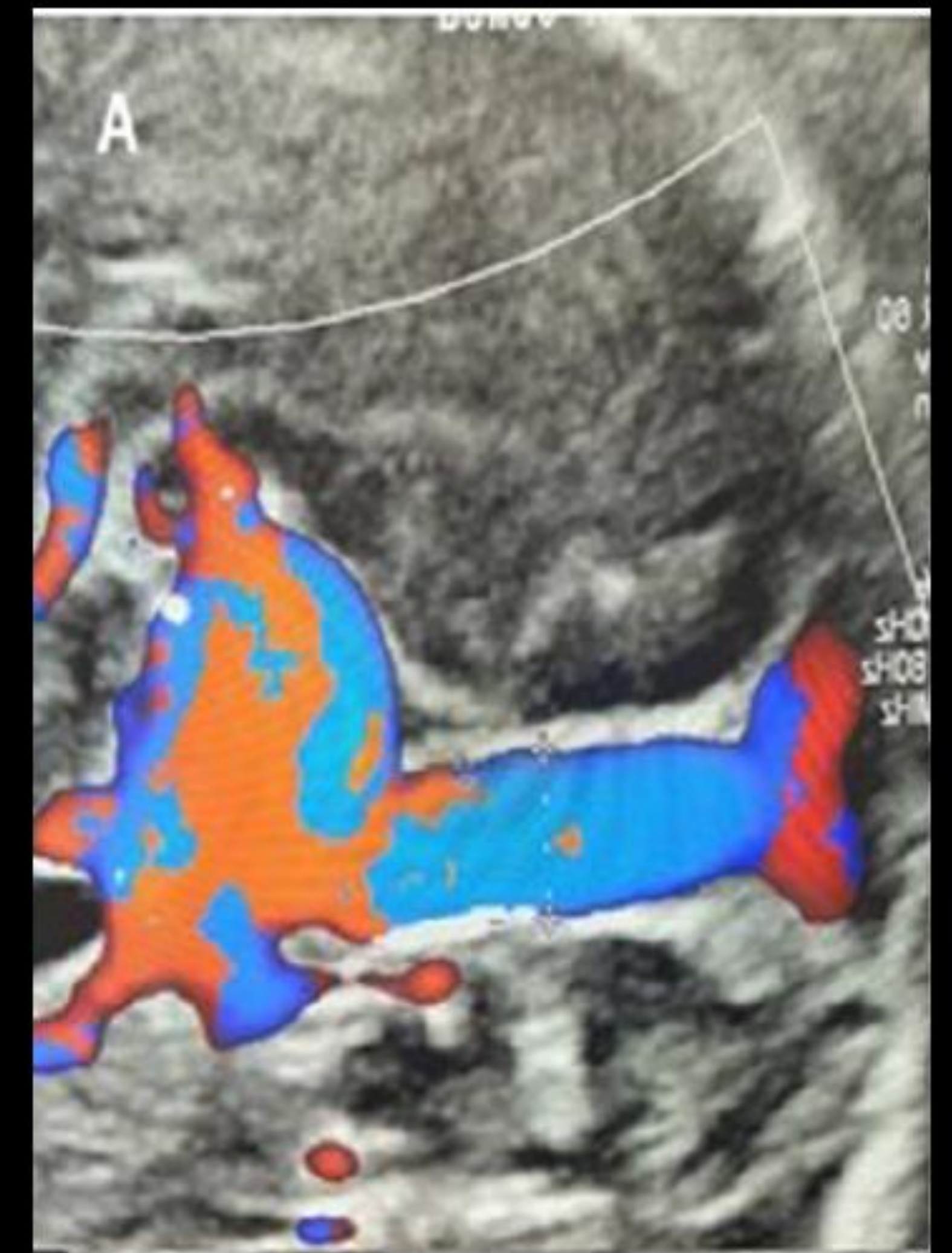


Figure 1. Color Doppler study showing the VOGM before intrauterine embolization.



Figure 2. Ultrasound imaging showing the coils in the VOGM after intrauterine embolization.