

Venous air embolism from Tisseel use during endoscopic cranial vault remodeling for craniosynostosis repair: a case report.

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Abstract:

Venous air embolism (VAE) is a potential complication during cranial vault remodeling requiring early detection and prompt therapeutic intervention. The incidence of VAE has been reported to be as high as 82.6% during open craniectomy for craniosynostosis repair. On the other hand, two separate studies reported a much lower incidence of VAE (8% and 2%) during endoscopic strip craniectomy. As surgical advancements progress, minimally invasive neurosurgical procedures are increasing in the pediatric population with reported benefits of decreased blood loss and need for transfusion, shorter hospital stay, decreased cost, lower morbidity, and mortality. In addition, there is a heightened emphasis on achieving hemostasis, which has led to the use of products such as antifibrinolytics and fibrin sealants. We present a case where a VAE causing significant hemodynamic instability (grade III) ensued immediately following aerosolized fibrin sealant application. Exploration of the potential source of VAE pointed to the high pressure and close proximity (between spray device and tissue) during application of the sealant, likely forcing air into the vascular system.

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