

Management of a Symptomatic Cerebral Dural Arteriovenous Fistula in Pregnancy

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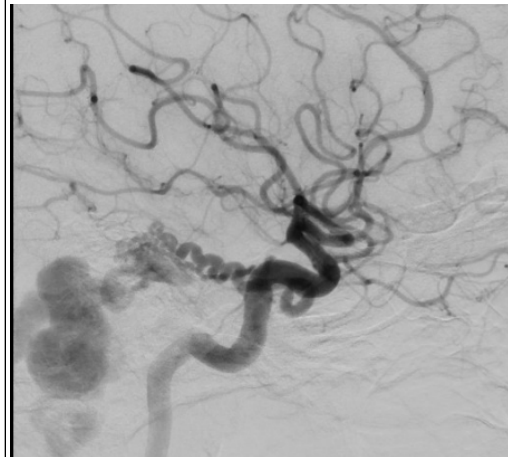
Introduction

Cerebrovascular malformations are a rare and sometimes problematic discovery in pregnancy. Though there have been a few small studies on the safety of arteriovenous malformations, cavernomas and hemangioblastomas in pregnancy, there has been very limited, if any, report of dural arteriovenous fistulas found in pregnancy. We discuss the discovery, management and treatment of a large, symptomatic dural arteriovenous fistula discovered in a pregnant patient.

Methods

A 37 year old female who was 26 weeks gestation presented to clinic with 11 weeks of symptoms that included a stiff neck, daily headaches and blurred vision that progressed to double vision. An MRI was performed that demonstrated large flow voids in the right CPA cistern and cisterna magna with increased vascularity in the right tentorial incisura. There was paradoxical flow into the vein of Galen and perimedullary veins seen on the MRA. With high risk obstetrics monitoring, a cerebral angiogram was performed at 28 weeks demonstrating a Borden II/Cognard IIB dural arteriovenous fistula supplied by a large inferolateral trunk, marginal tentorial artery and middle meningeal artery to the right tentorial venous sinus. There was paradoxical drainage in the brachial and perimedullary veins through the vein of Galen to the straight sinus. The patient was delivered at 29 weeks and 6 days gestation via cesarean section with ICP monitoring. The following day the patient was taken for successful onyx embolization of her dural AV fistula via the middle meningeal artery.

Dural AV fistula_Right ICA injection



Right Internal Carotid Artery Injection
Demonstrating the Dural AV Fistula

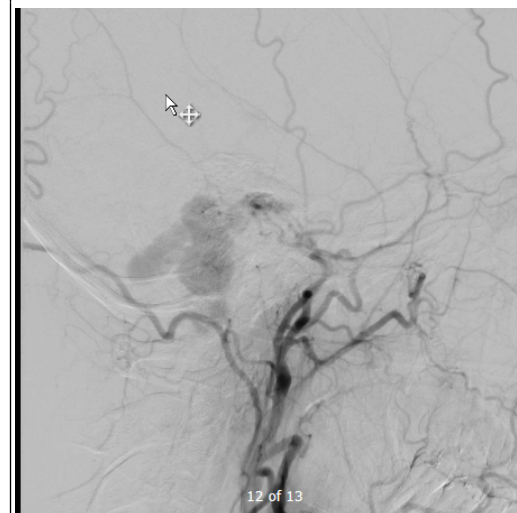
Results

The patient was successfully treated for her dural AV fistula with Onyx embolization after a planned, cesarean delivery of her premature infant. The infant was monitored and supported in the NICU with an uncomplicated course. The preoperative headaches and diplopia experienced by the patient improved.

Conclusions

This presents a very rare case and our management of a cerebral dural AV fistula in pregnancy that was successfully treated with a safe outcome for the patient and her infant.

Dural AV fistula Right External Carotid View



Lateral right external carotid injection
demonstrating the dural AV fistula

Learning Objectives

1) Management strategy in the rare case of a symptomatic cerebral dural AV fistula in a pregnant patient.