



Long-term Angiographic Results of Endovascularly “Cured” Intracranial Dural Arteriovenous Fistulae

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Introduction

Dural arteriovenous fistulae (DAVF) are complex lesions consisting of abnormal connections between meningeal arteries and dural venous sinuses and/or cerebral veins. The goal of treatment is surgical or endovascular complete occlusion of the fistula, fistulous nidus or at least the discussion of the feeding vessels and the draining veins that should result in occlusion of the fistula. Delayed angiographic data on previously embolized dural fistulas is lacking. We report our experience and long-term angiographic results with embolization of intracranial DAVF using Onyx.

Methods

All cases of dural arteriovenous fistula treated primarily with Onyx at our institution from 2006-2013 were retrospectively reviewed. Patient demographics, fistula characteristics, embolization details, and angiographic follow-up were analyzed.

Results

Fifty-eight patients with DAVFs were treated at our institution from 2006-2013. Twenty-two patients were treated with open surgery with or without prior embolization. Thirty-six were treated with embolization alone of which 26 underwent an attempt at curative embolization and they are the subject of this review. All but two patients were treated in a single session. Angiographic “cure” was achieved in all cases following treatment. The mean angiographic follow-up was 14 months (range 2-39 months). Asymptomatic angiographic recurrence of the fistula was evident in 3 patients (15%). On reviewing the procedural angiograms of the cases that recurred, it was observed that the Onyx cast did not reach the venous portion in one case whereas it reached the vein in the other two cases.

Conclusions

Recurrence following initial angiographic “cure” of DAVF is not uncommon. Incomplete penetration of the embolic material into the proximal portion of the venous outlet may lead to delayed recurrence. Long-term angiographic follow-up is highly recommended.

Learning Objectives

the present study provides long term angiographic followup of patients undergoing endovascular management of intracranial DAVFs