Dural Arteriovenous Fistulas of the Tentorial Margin: Angiographic Aspects and Endovascular Treatment

Biondi, A. · Ricciardi, G. K. · Clemenceau, S. · Casasco, A. · Chiras, J.
Pitié-Salpêtrière Hospital - University Paris VI
Paris, FRANCE.

Purpose
Dural arteriovenous fistulas (dAVFs) located at the free edge of the tentorial incisura (medial tentorial fistulas) are a unique group of lesions and should be differentiated from other tentorial fistulas (middle and lateral tentorial fistulas) and also from dAVFs of the posterior compartment of the cavernous sinus and of the superior petrosal sinus. The tentorial margin dAVFs have an almost exclusive drainage to leptomeningeal veins and deep venous system with increased risk of hemorrhage and neurologic deficits. Our purpose was to review the angiographic aspects and strategy of the endovascular treatment in this type of dAVFs.

Materials & Methods
Retrospective chart analysis and radiologic studies evaluation were carried out in six patients with a tentorial margin dAVF. There were 5 males and 1 female ranging in age from 37 to 65 years (men age 53.5 years). Two patients had symptoms of raised intracranial pressure, two patients presented with hemorrhage, one patient presented headache, and in another one the dAVF was diagnosed by chance on a MR study performed because of hypoacusia. Four patients underwent transvenous and/or transarterial endovascular treatment.

Results
Tentorial margin dAVFs have very characteristic angiographic aspects especially regarding their venous drainage. After endovascular treatment, there was complete dAVF occlusion in all cases. Two patients were clinically cured with disappearance of symptoms of raised intracranial pressure and one patient, who had recovered from the hemorrhage, remained asymptomatic. One patient presented a partial internuclear ophthalmoparesis due to a small hematoma occurring during venous catheterization; this patient recovered completely 2 months later.
Conclusion
Tentorial margin dAVFs have characteristic angiographic features which lead to various hypothesis regarding their pathogenesis. Prompt therapy is mandatory because of their severe prognosis. Although challenging, the endovascular treatment of these lesions appears feasible and effective.

References

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