

Direct Post-traumatic Carotid Cavernous Fistula Treated by Endovascular Intervention

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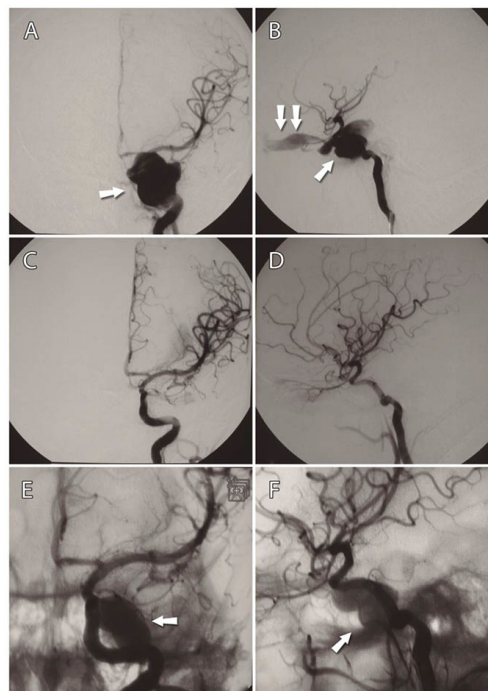


Figure 1: Carotid cavernous fistula treated by endovascular intervention.

Clinical Image

The Carotid-Cavernous Direct Fistula (CCF) is a high-flow injury resulting from the wall laceration of the cavernous segment of the internal carotid artery and its subsequent communication with the cavernous sinus [1]. The vast majority of direct CCF is traumatic but direct post-traumatic CCF represents a rare entity, occurring in only 0.17 to 1.01% of all Traumatic Brain Injury (TBI) [1,2]. Clinical presentation may involve impairment of cranial nerves III, IV, V and VI, causing paralysis on the extrinsic eye movement and diplopia, besides the emergence of headache, retro-orbital pain, chemosis and proptosis and even intracranial hemorrhage [2].

The best treatment option involves the endovascular occlusion of the fistula, usually with detachable balloons [1,2]. The figure shows images of an endovascular treatment of a direct post-traumatic CCF in a woman, 39 years old, who suffered a car accident with TBI. In Figures 1A and 1B it is possible to demonstrate the early opacification of the left cavernous sinus (arrow), featuring the direct CCF involving the left internal carotid artery. Also, in B, the double arrow shows the early and retrograde opacification of the superior ophthalmic vein. The endovascular treatment with occlusion of the fistula with two detachable balloon was performed, and in the following images (Figures 1C and 1D), it's possible to demonstrate that there is no early opacification of the cavernous sinus, and there is normal opacification of the left brain parenchyma. In Figures 1E and 1F it's possible the visualization of the detachable balloons.

References

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