

SPONTANEOUS INDIRECT BILATERAL CAROTID-CAVERNOUS FISTULA TREATED WITH ENDOVASCULAR COIL EMBOLIZATION – A CASE REPORT

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Introduction. A bilateral carotid cavernous fistula (CCF) is a rare, atypical vascular shunt between the carotid arterial system and the venous channels of the cavernous sinus. Depending on how the internal carotid artery and cavernous sinus communicate, they are categorized as direct or indirect. Bilateral CCFs are rare and seen in 1-2% of patients with CCF. Rarely occurring, bilateral CCFs are detected in 1-2% of CCF patients. The case of a bilateral indirect, non-traumatic, low-flow carotid-cavernous fistula that was effectively treated with endovascular coil embolization is described here.

Case Description. A 62-year-old female with poorly controlled arterial hypertension presented with bilateral eyelid swelling, subacute injection of both eyes, ophthalmoplegia, diplopia, and diminished visual acuity. She had no history of prior head trauma. Arterial flow along the cavernous sinuses was seen during an MRI angiography, which suggests bilateral CCF.

Due to imaging findings and the patient's symptoms, the CCF diagnosis was later verified by digital subtraction angiography (DSA), which revealed bilateral, indirect dural, low-flow CCFs.

Detachable coils were used for endovascular embolization of both CCF, and the carotid-cavernous flow resolved right away after the treatment.

Summary. Spontaneous bilateral CCF should be examined in patients presenting with acute changes in vision, headache, and exophthalmos regardless of the history of trauma, to avoid misdiagnosis and late treatment. DSA is the modality of choice in these cases, as for the MRI it requires a highly experienced neuroradiologist, as the findings usually are quite subtle.

Conclusions. Imaging modalities such as MRI and DSA play a significant role in CCF diagnosis, although DSA is typically necessary both for diagnosis and treatment with endovascular embolization.