

Posterior ischaemic optic neuropathy post successful coiling of direct spontaneous carotid cavernous fistula in a young healthy male

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ABSTRACT

Trans-arterial coil embolization is a common interventional procedure for symptomatic carotid cavernous fistula (CCF). However, it rarely causes sight-related adverse events. We report a rare case of unilateral posterior ischemic optic neuropathy (PION) following a successful trans-arterial coil embolization of direct spontaneous CCF in a young, healthy male. A 22-year-old gentleman with no known medical illness and no history of trauma, developed binocular diplopia and intermittent headache for five months with worsening right eye (RE) redness, swelling and proptosis for two days. On examination revealed RE vision 6/6, intraocular pressure (IOP) of 23 mmHg, lagophthalmos, pulsatile exophthalmos, orbital bruit, chemosis with corkscrew vessels and abduction deficit. Cerebral digital subtraction angiography (DSA) confirmed right cavernous portion of internal cerebral artery (ICA) aneurysm with direct right CCF. Trans-arterial coil embolisation was successfully performed. Immediately after coiling procedure, he complained of RE blurred vision, with vision reduced to 6/36. A positive grade 2 relative afferent pupillary defect and a pink optic disc were observed. He was promptly diagnosed with RE PION and started on intravenous Methylprednisolone 1 g OD for 3 days. His vision subsequently returned to baseline, accompanied by the resolution of initial signs and symptoms. This case underscores the risk of developing PION following endovascular intervention for direct CCF and emphasizes the necessity of maintaining a high index of suspicion for diagnosis. Intravenous Methylprednisolone may help to reduce inflammation caused by the ischaemic event during the coiling procedure.