A patient who presents with raised intraocular pressure or glaucoma and distended episcleral veins in one eye needs to be investigated for a spontaneous carotid – cavernous fistula

The Science behind the Tip

A carotid – cavernous sinus fistula is an abnormal vascular communication between the carotid artery system and the cavernous sinus. This can result in raised episcleral venous pressure and is a rare cause of elevated IOP and glaucoma¹.

Most occur after trauma and result in pulsatile proptosis, engorgement of the episcleral veins and a bruit. The remainder occur spontaneously with an insidious onset, mainly in middle-aged women. Because these dural carotid-cavernous sinus fistulas are low flow, less severe symptoms occur². Prominent episcleral veins with minimal proptosis is found and two thirds have raised IOP or glaucoma¹.

Non-invasive imaging techniques can be used to confirm the diagnosis³. The most common treatment is occlusion of the fistula via a transarterial or transvenous route. This results in restoration of normal orbital and intracranial blood flow and reduction of IOP in most cases².

References


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