PHOTO ESSAY

Computed Tomography Angiography of Bilateral Intracavernous Internal Carotid Artery Aneurysms

Ayman G. Elnahry and Gehad A. Elnahry

Department of Ophthalmology, Faculty of Medicine, Cairo University, Cairo, Egypt

ABSTRACT

Bilateral intracavernous internal carotid artery aneurysms are rare. They are more common in elderly females and are associated with hypertension. We present the computed tomography angiography findings of an 81-year-old female with history of hypertension who came complaining of diplopia and headache. Examination revealed bilateral sixth nerve palsy with left third nerve palsy. External ocular examination was normal. Computed tomography angiography was done and revealed bilateral intracavernous internal carotid artery aneurysms. She was referred to neurosurgery for further management.

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Photo essay

An 81-year-old female presents with diplopia and headache of insidious onset and progressive course. Medical history includes hypertension controlled by medication. Her corrected distance visual acuity was 20/40 in both eyes. Examination revealed bilateral sixth nerve palsy and left third nerve palsy. There were no signs of proptosis or congestion. Pupillary examination revealed left fixed and dilated pupil. Anterior segment examination showed bilateral posterior chamber intraocular lenses with no inflammation. Posterior segment exam was normal. Patient was sent for computed tomography (CT) and CT angiography (CTA) of the brain and orbit for further evaluation. CTA revealed bilateral intracavernous internal carotid artery aneurysms (Figure 1). Occlusion of the left eye was recommended to relieve diplopia and the patient was referred to neurosurgery for possible intervention.

Bilateral intracavernous internal carotid artery aneurysms are rare and more commonly diagnosed in elderly females.¹ In old age, it is usually associated with hypertension.² Other causes include infections leading to mycotic aneurysms. Differential diagnosis includes cavernous sinus lesions as cavernous sinus

Figure 1. CTA showing bilateral intracavernous internal carotid artery aneurysms (white arrows).

thrombosis, carotico-cavernous fistula, and intracranial neoplasms. Intracavernous internal carotid artery

aneurysms can present to neurologists, ophthalmologists, and rarely otolaryngologists depending on their manifestations. Most commonly, cranial nerve palsies and facial pain are the presenting symptoms due to the mass effect of the aneurysm, and in most cases, there is a progressive onset of symptoms.³ Although rupture of an intracavernous carotid aneurysm is rare, treatment is still indicated as it can result in significant improvement in symptoms.^{4,5} The preferred method of treatment is the endovascular approach, since it is both safe and effective.⁴

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Ethical approval

This report was approved by Cairo University research ethics committee and followed the tenets of the Declaration of Helsinki.

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ORCID

Ayman G. Elnahry <http://orcid.org/0000-0001-5148-316X>

Gehad A. Elnahry <http://orcid.org/0000-0001-5738-5915>

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