

## QUIZ SECTION

### B-SCAN QUIZ ANSWER

Carotico-cavernous fistula is an abnormal communication of internal or external carotid circulation with cavernous sinus system, occurring because of traumatic or spontaneous rents in the walls of intracavernous carotid artery or its branches.<sup>[1]</sup> This results in short circuiting of arterial blood into venous blood. This is a case of direct Carotico-cavernous fistula with high arterialized blood flow in superior ophthalmic vein demonstrated on colour Doppler imaging of both orbits. The superior ophthalmic vein is dilated in both orbits due to this post-traumatic fistula. The patient presented with secondary glaucoma, increasing proptosis which eventually was investigated by B-scan and MRI study, confirming the fistula. Later the patient underwent catheter angiography of right internal carotid artery and successfully treated with embolisation of fistula by coiling.

Literature mentions diagnosis and confirmation of Carotico-cavernous fistula by B-scan with colour Doppler study followed by MR angiography, being the diagnostic modalities of choice considering their non-invasive nature.<sup>[1, 2, 3, 4]</sup>

#### Differential diagnosis on imaging is:

- 1) Cavernous sinus Thrombosis
- 2) Orbital varix

#### References:

- 1) Carotid-cavernous fistula, Emedicine article, Author: Ingrid U Scott, Article updated on 17 February, 2010.
- 2) The eye and orbit, John A Fielding, In Abdominal and General ultrasound, Volume II, Editors; David Cosgrove, Hylton Meire, Keith Dewbury, Churchill Livingstone publication, 4<sup>th</sup> edition, pg. 653
- 3) Dilated superior ophthalmic vein, In the Shankara Netralaya's atlas of ophthalmic ultrasound, Muna Bhendhe et al, Jaypee publication, 2006 edition, 1<sup>st</sup> edition, pg. 221-224 Parson's
- 4) Orbital diagnosis, In Ultrasonography of the eye and orbit, Editor D Jackman Coleman et al, Lipincott Williams and Wilkins publication, 2<sup>nd</sup> edition, pg. 165 - 166

