

Case Report

Orbital varix — a case report

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To present a rare case of unilateral orbital varix. A 65-year-old woman with unilateral orbital mass was examined with color Doppler ultrasonography (USG), computed tomography (CT). The presenting symptom of the patient was proptosis in right eye at will, at any time, just by stooping down for a few minutes. There was no associated ocular motility disorder or diplopia. Ocular examination was normal with the exception of an 18 millimetre proptosis of right eyes during Valsalva manoeuvre. The comparison of contrast-enhanced spiral CT scan obtained before and after Valsalva manoeuvre revealed the diagnosis of orbital varix. Color Doppler US revealed a large venous connection between the lesions and systemic circulation. Clinical presentation of orbital varix is unusual. Different radiological tools help for the confirmation of the diagnosis and delineate the anatomic and the dynamic features of the lesion.

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Key words : Enophthalmos, Hertel exophthalmometer, Orbital varix, Proptosis, Phleboliths.

Orbital varices are low-flow venous malformation occurring due to vascular dysgenesis. It typically presents as enophthalmos at rest in the patient when the lesions are not engorged. A progressive intermittent proptosis on Valsalva manoeuvre or on bending diagnostically implicates for orbital varix¹. The diagnosis is established via contrast-enhanced spiral CT during a Valsalva manoeuvre (or other means of decreasing venous return) which reveals characteristic enlargement of those engorged veins. Phleboliths may be present on imaging which are often diagnostic. Treatment is usually conservative. Surgery is reserved for relief of significant pain or for cases in which the venous malformation causes vision-threatening compressive optic neuropathy.

CASE REPORT

A 65 year old female from Amtali, Agartala attended eye OPD at Agartala Govt Medical College & G B Pant Hospital on 05-08-2013, with a complaint of forward protrusion of the right eyeball on stooping down, for the last 20 years. The bulging was painless in nature. It was of gradual onset. Initially she felt some vague discomfort over right eye followed by fullness over right eye. The patient was able to produce proptosis of the right at will, at any time, just by stooping down for a few minutes. On bending forward, coughing, sneezing, squatting it increases in size. The patient reported the same on sleeping in right lateral position. There was no associated ocular motility disorder or diplopia but disappears on standing. There is associated feeling of foreign body sensation in the same eye. There was no history of any trauma or of varicosities anywhere else in the body. The past history and the family history were without

any significance.

Examinations — On Ocular examination her vision was 3/60 right eye and 6/24 left eye. The right eye showed a distinct enophthalmos with slight widening of the palpebral aperture as compared with the left eye. The superior palpebral furrow was very deep. Anterior segment of both eyes were normal except nuclear sclerosis grade 3 both eyes. Both pupils had a normal light reaction. Eye motility was normal in all gazes (Fig 1).

In primary position there was proptosis in right eye. The proptosis was axial. Increases with Valsalva manoeuvre. Forward protrusion of the eyeball started within a few seconds of stooping down and reached its maximum in about 1.5 minutes. It disappears on compressing the eye ball with eyelid closed. As the patient assumed the erect posture the



Fig 1 — Proptosis increases with Valsalva manoeuvre

proptosis disappeared, the right eye assuming its previous enophthalmic position. There was no pulsation or thrill palpable, after the production of proptosis. Auscultation of periorbital area was negative. Measured by Hertel exophthalmometer, 18 mm of proptosis was elicited by Valsalva manoeuvre.

B-mode ultrasonography (US) showed both masses enlarging with Valsalva manoeuvre. Colour Doppler US demonstrated ante grade venous flow within the lesions and retrograde venous flow during the Valsalva manoeuvre.

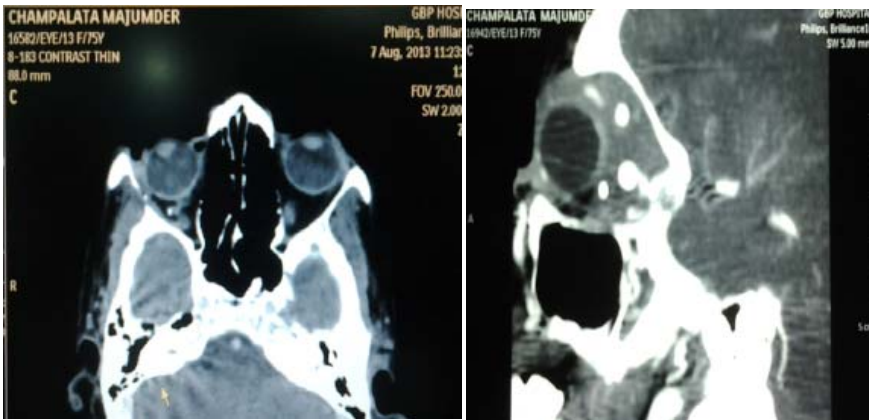
On contrast-enhanced spiral CT scan, well-circumscribed

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Figs 2&3 — CT scan showing well-circumscribed homogeneous lobulated soft tissue mass with multiple calcified densities (Phlebolith)

homogeneous lobulated soft tissue mass with multiple calcified densities mainly in the superomedial orbital region extending to the orbital apex were noted, enlarging markedly with Valsalva manoeuvre with forward displacement of the eyes. The right orbit showed expansion. Phleboliths were visualised (Figs 2&3).

CT angiography was done and was confirmed.

Conservative management has been advocated. The patient has only been asked to refrain from trauma and certain body postures which might induce Intraorbital venous pressure increase.

DISCUSSION

Primary orbital varix which is a congenital venous malformation usually presents with painless intermittent proptosis. Orbital varix usually originates from the superior ophthalmic vein, probably due to a congenital weakness of the vascular wall. Induction of venous stasis either by bending the head forward, or coughing, forced expiration or pressure on the jugular veins, leads to pronounced and rapid protrusion of one eye².

Orbital varix may be associated with venous malformations elsewhere in the body. Vascular abnormalities may be present in the conjunctiva or eyelids and localised venous dilatations on the forehead and scalp are also reported. In our case there was no other vascular abnormality elsewhere in the body.

The typical clinical picture of orbital varices is unilateral intermittent proptosis. Here in our case our patient complained so mainly on bending the head forward, coughing, etc. she complained of periocular fullness and pressure appearing with bending forward which was same as that of Bulent Yazici et al case report².

Recurrent attacks leads to pressure atrophy of the orbital tissues and retro bulbar fat resulting enophthalmos on erect posture as seen in our case³. The narrowing of the palpebral aperture during proptosis is due to suffusion of the conjunctiva and eyelids due to venous stasis. The view expressed by Walsh (1957) that it can be attributed to an involuntary effort to favourably influence the amount of proptosis does not seem to be a probable explanation of the narrowing of the palpebral aperture in our case⁴.

A contrast-enhanced spiral CT scan of the orbits is a very useful diagnostic aid as this can delineates other orbital and adnexal

pathology such as orbital fat atrophy, orbital varices, and orbital changes associated with pathology in the maxillary sinus. In presence of a Phlebolith within the vascular channels in CT scan, the diagnosis of varices can be confirmed⁵. Biopsy should be avoided because of the risk of haemorrhage.

On Clinical grounds alone, difference between tumours and true vascular abnormalities may land up in diagnostic dilemma. Orbital venography is essential as a preoperative diagnostic tool. Its CT Image finding that add up to the typical clinical picture for making the diagnosis of orbital varix highly conclusive⁶.

Treatment of varices mainly dictates surgery. The various surgical modalities of orbital varix includes Injection of sclerosing agents into the orbit, Aspiration of the retro bulbar space, Ligation of the superior ophthalmic vein, Artificially-induced electrical current and total removal of the lesion⁷. Surgical excision is technically difficult and often incomplete because the lesions are friable and bleed easily. Surgical recommendation is reserved for recurrent thrombosis, pain, severe proptosis and optic nerve compression⁸. But in our case Conservative management has been advocated. The patient has only been asked to refrain from trauma and certain body postures which might induce Intraorbital venous pressure increase.

CONCLUSION

A case of intermittent proptosis at will by stooping down and its complete resolution on assuming the erect posture without any pulsation or thrill, there being no history of trauma is presented. The cause is evidently an orbital varix.

REFERENCES

- 1 Holds JB — Basic and clinical science course (American Academy of Ophthalmology, June 2011) Orbit, Eyelids, and Lacrimal System, Section 7, Chapter 5, Orbital Neoplasms and Malformations, 66-67.
- 2 Rubin PA, Remulla HD — Orbital venous anomalies demonstrated by spiral computed tomography. *Ophthalmology* 1997; **104**: 1463-70 [PubMed].
- 3 Duke-Elder S — (1952a) Text book of Ophthalmology Vol. V. Henry Kimpton London, p. 5397. (1952b) *Ibid*_ p. 5627. - - (1952c) *Ibid*. P. 5401.
- 4 Walsh FB — Clinical Neuro-Ophthalmology II ed. (William & Wilkins, Baltimore, 1957). 847.
- 5 Bulent Yazici, Zeynep Yazici, Oner Gelisken — An unusual case: Bilateral orbital Varices, *Acta Ophthalmol. Scand* 1999; **77**: 453-5.
- 6 Aksoy K, Doygun M, Kutlukm T, Ipekoglu Z, Korfali E — Orbital varix a case report. *Turkish Neurosurgery* 1990; **1**: 182-4.
- 7 Ward PH — The treatment of orbital varicosities. *Arch Otolaryngol Head Neck Surg* 1987; **113**: 286-8.
- 8 Kanski JJ, Bowling B — Clinical Ophthalmology A Systemic Approach. 7th edition. (China: Elsevier 2011). Chapter 3, Orbit; 94-5.