

Valsalva retinopathy following transesophageal echocardiography

Amber A Bhayana, Vinod Kumar

Key words: Premacular hemorrhage, transesophageal echocardiography, valsalva retinopathy

Case Report

A 25-year-old female, known case of cardiac atrial septal defect, presented with sudden painless diminution of vision in OS for past 3 days following transesophageal echocardiography. OD was normal. OS best-corrected visual acuity (BCVA) was 20/400 with normal anterior segment. Fundus [Fig. 1a] and swept-source optical coherence tomography [SSOCT, Fig. 1b] showed premacular hemorrhage. Patient was diagnosed as OS Valsalva retinopathy following transesophageal echocardiography and kept on close follow-up. At 6 weeks, BCVA OS improved to 20/60. Premacular hemorrhage decreased in size [arrow, Fig. 1c]. Small area of hyper-reflectivity was persisting on SSOCT [arrow, Fig. 1d]. At 6 months, BCVA improved to 20/25. The hemorrhage resolved clinically [Fig. 1e]. The patient reported metamorphopsia that could be attributed to internal limiting membrane thickening visible on SSOCT [Fig. 1f]. In view of good visual acuity, the patient was not keen for surgical intervention.

Discussion

A transesophageal echocardiogram (TEE) involves passage of a specialized probe with ultrasound transducer at its tip into the esophagus to obtain an echocardiogram. Valsalva maneuver is done with TEE to detect patent foramen ovale^[1] and TEE (or other endoscopic procedures like bronchoscopy) may itself produce Valsalva-like stress. Therefore, the treating physician should be aware of possibility of Valsalva retinopathy following TEE and should also counsel the patient accordingly.

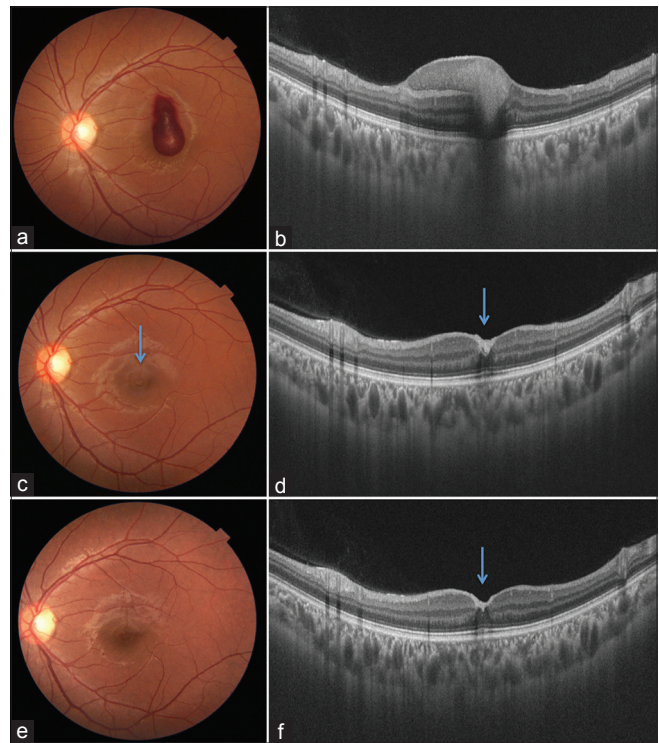


Figure 1: Sequential color fundus photographs and SSOCT of a patient post transesophageal echocardiography. (a), (b) Fundus and SSOCT at presentation showing fresh premacular bleed. (c), (d) Fundus and SSOCT at 6 weeks showing resolving bleed (arrow) – hyper-reflective band over the foveal dip on OCT. (e), (f) Fundus and SSOCT at 6 months showing almost resolved hemorrhage with persistent ILM thickening as seen on OCT

Most premacular hemorrhages tend to get absorbed spontaneously within 2–4 months. An Nd-YAG laser membranotomy may be performed in fresh cases (it disperses the contained blood in to the vitreous cavity), which clears visual axis.^[2,3] Nonresolving premacular hemorrhages may require vitrectomy.

To conclude, TEE can lead to Valsalva retinopathy and should be explained to the patients in preoperative counseling as a cause of visual decline. Though premacular haemorrhage may resolve spontaneously, patient may have residual visual disturbances.

Access this article online	
Quick Response Code:	Website: www.ijjo.in
	DOI: 10.4103/ijjo.IJO_1565_18

Dr. Rajendra Prasad Centre for Ophthalmic Sciences, All India Institute of Medical Sciences, New Delhi, India

Correspondence to: Dr. Vinod Kumar, Dr R P Centre, All India Institute of Medical Sciences, New Delhi - 110 029, India. E-mail: drvinod_agg@yahoo.com

Manuscript received: 16.09.18; Revision accepted: 06.01.19

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

Cite this article as: Bhayana AA, Kumar V. Valsalva retinopathy following transesophageal echocardiography. Indian J Ophthalmol 2019;67:553-4.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Rodrigues AC, Picard MH, Carbone A, Arruda AL, Flores T, Klohn J, *et al.* Importance of adequately performed Valsalva manoeuvre to detect patent foramen ovale during transesophageal echocardiography. *J Am Soc Echocardiogr* 2013;26:1337-43.
 2. Raymond LA. Neodymium: YAG laser treatment for hemorrhages under the internal limiting membrane and posterior hyaloid face in the macula. *Ophthalmology* 1995;102:406-11.
 3. Shukla D, Naresh KB, Kim R. Optical coherence tomography findings in Valsalva retinopathy. *Am J Ophthalmol* 2005;140:134-6.
-