



Sudden Vision Loss in a 37-Year-Old Power-Lifter

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Introduction:

While at the gym, a healthy 37-year-old noted a sudden paracentral scotoma in his right eye (Figure 1). When questioned what he was doing in the gym, he produced a video (<https://youtu.be/X1C0nHoDGDQ>). The scotoma appeared immediately after he completed a 450-pound dead lift. (The dead lift is a weight-training exercise in which a loaded barbell is lifted off the ground to the level of the hips, then lowered to the ground.)

Exam:

The patient's vision was 20/20 in both eyes. His examination was remarkable for a small, paracentral hemorrhage in the right eye with a couple of incidental peripapillary nevi. The presumptive diagnosis was Valsalva retinopathy. Over a few weeks, the hemorrhage and scotoma resolved without sequela.

Discussion:

The Valsalva maneuver is a popular medical topic 300 years after first mentioned by Antonio Valsalva, a professor of anatomy and surgery in Bologna, Italy in 1704 (Figure 2). Incompetent valves in the venous system of the head and neck allow transfer of intrathoracic or

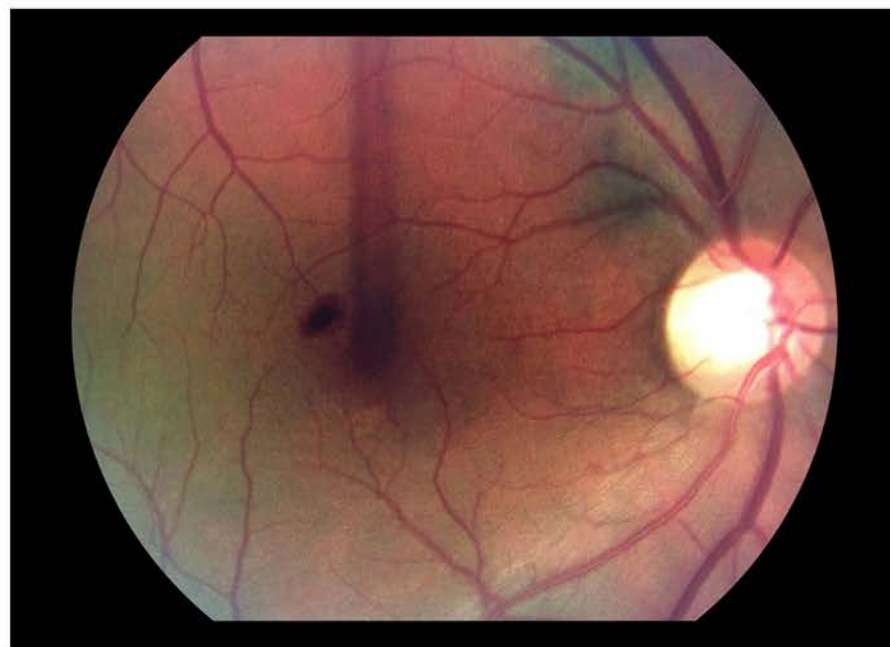


Figure 1: Weight-lifter presented with paracentral scotoma in his right eye.

intraabdominal pressure during the Valsalva maneuver. Sudden elevations of central venous pressure spontaneously rupture the retinal capillaries resulting in intraretinal, sub-internal limiting membrane of vitreous hemorrhage.



Figure 2: Antonio M. Valsalva (1666-1723).

sexual activity.

In Figure 3, we see a 44-year-old woman who underwent uncomplicated ankle surgery under a general anesthetic. This obese, heavy smoker experienced

vision loss after emerging from a general anesthetic complicated by a difficult extubation and violent coughing. This macular hemorrhage resolved over several days. Figure 4 shows a healthy mother a few days after delivery her first child.

Valsalva retinopathy usually occurs in otherwise healthy eyes, but occasionally is associated with retinal vascular abnormalities.

An elderly patient noted sudden severe vision loss in his right eye during a difficult bowel movement (Figure 5). The intra and sub-internal limiting exudate and hemorrhage gradually resolved.



A preexisting retinal macroaneurysm, inferior to fixation, was presumed to be a contributing factor to his Valsalva maculopathy.

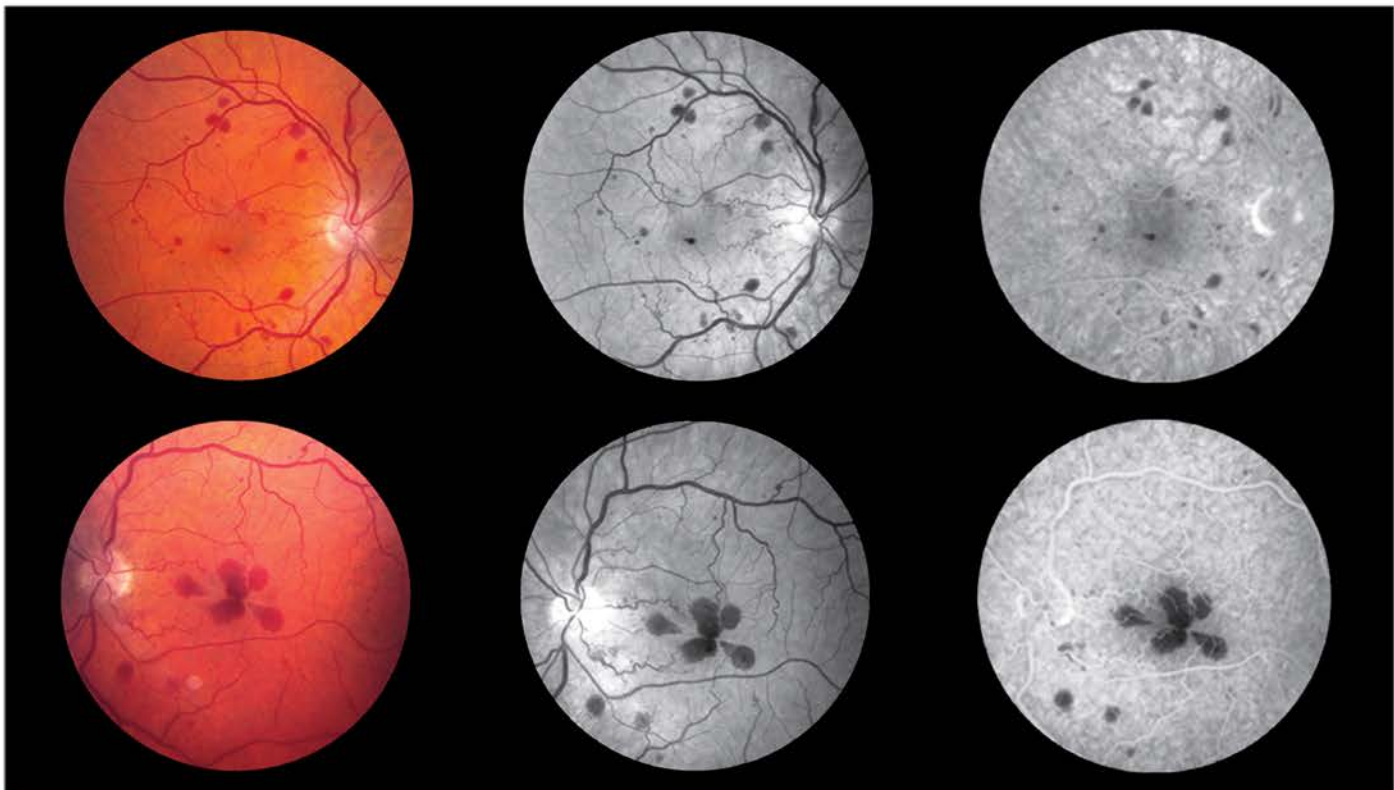


Figure 3: Fundus photographs, red-free and fluorescein angiogram frames following a difficult extubation.

Valsalva maculopathy is usually unilateral. With conservative management, the hemorrhage is expected to resolve with weeks to months. Neodymium YAG laser membranectomy is an option for large sub-internal limiting hemorrhage, especially in a monocular patient.

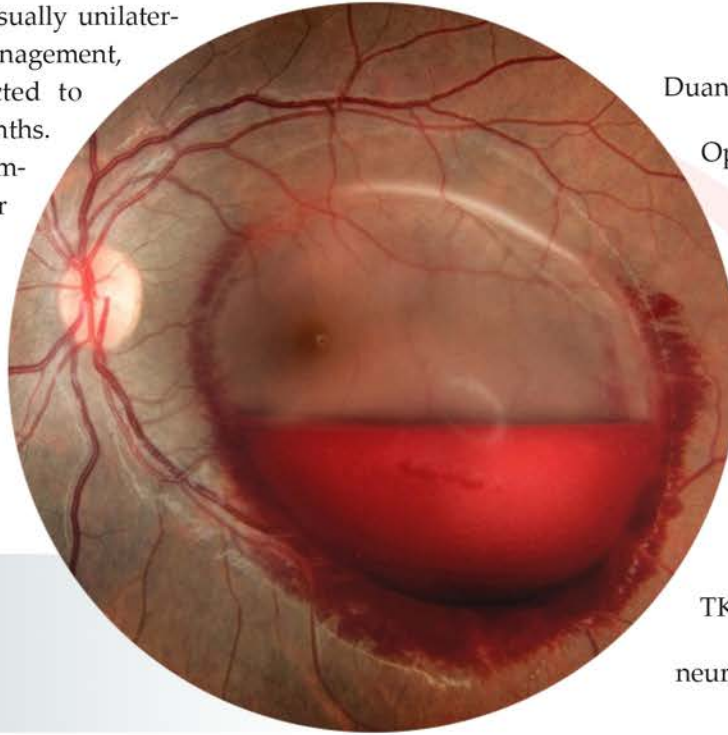


Figure 4 (top): Valsalva following prolonged labor.

References:

Duane TD. Valsalva Hemorrhagic Retinopathy. *Trans Am Ophthalmol Soc.* 1972; 70: 298-313.

Gabel VP, Birngruber R, Gunther-Koszka H, Puliafito CA. Nd:YAG laser photodisruption of hemorrhagic detachment of the internal limiting membrane. *Am J Ophthalmol.* 1989 Jan 15; 107(1):33-7.

Avins LR, Krummenacher TK. Valsalva maculopathy due to a retinal arterial macroaneurysm. *Ann Ophthalmol.* 1983 May; 15(5):421-3.

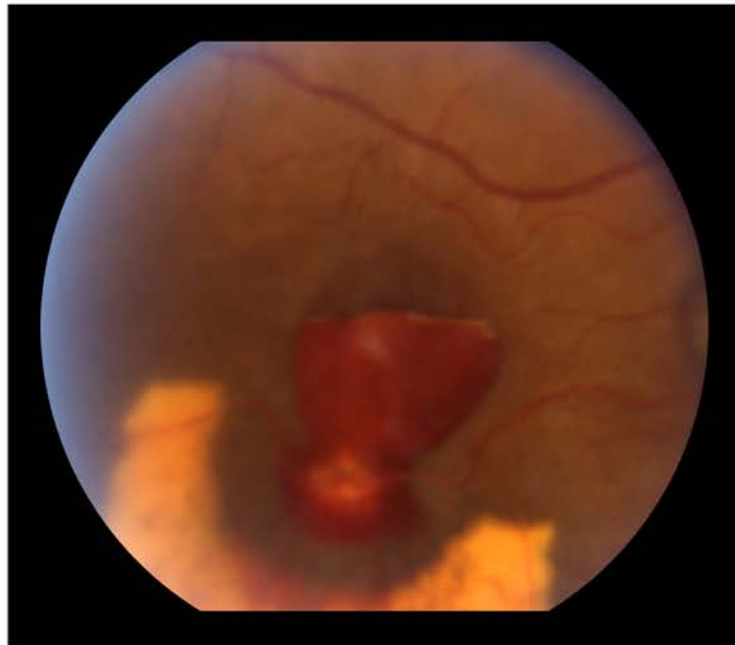


Figure 5 (bottom): Valsalva retinopathy complicating strained bowel movement with incidental macroaneurysms.

Case of the Month
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