

Valsalva Retinopathy treated with Nd-YAG laser posterior hyaloidotomy: Case report

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Introduction

Valsalva retinopathy typically appears as a sudden reduction in visual acuity in a healthy individual, caused by a pre-macular hemorrhage secondary to the Valsalva maneuver, whose main causes are: vomiting, coughing, exertion and physical activities (1). There is a spontaneous rupture of the perifoveal capillaries due to the sudden increase in intraocular venous pressure. Inner limiting submembrane hemorrhages (subILM) appear funduscopically as a well-demarcated hemorrhage. When faced with a case of Valsalva retinopathy, a conservative approach is generally chosen. However, this resorption can be very slow. Prolonged contact of the retina with hemoglobin and its catabolites can cause irreversible toxic retinal damage. The aim of this report is to describe the evolution of a case of Valsalva retinopathy in a young patient after performing Nd-YAG laser.

Case Report

Female patient, 31 years old, complaining of low visual acuity in the right eye (OD) for 05 days of sudden onset after several episodes of vomiting. On ophthalmologic examination, he had finger counting visual acuity in the OD and 20/20 in the OS. He had preserved ocular motility and reflexes, intraocular pressure of 14 mmHg in both eyes (OU), with no changes in the OU biomicroscopy. Fundus evaluation revealed physiological cupping in the OU, bright red preretinal hemorrhage with a fluid level in the OD that affected the macula, approximately 9 disc diameters, and preserved macula and retinal vessels in the OS. (figure 1) OCT of the Cirrus 5000[®] macula was performed in the OD, which revealed sub-ILM hemorrhage (figure 2). The patient was evaluated 7 days after the first consultation, maintaining the stability of the initial condition, it was decided to perform hyaloidotomy with Nd-YAG laser (11MJ) in the OD. On the 1st day after the procedure, it was already possible to observe a decrease in hemorrhage in the fundus and in the OCT (figure 3). Eleven days after the procedure, the patient had a visual acuity of 20/400. On OCT it was possible to visualize a hyaloidosis (figure 4). After 20 days of the procedure, visual acuity was 20/30. The OCT showed separation of the internal limiting membrane from the retinal nerve fiber layer with good anatomical result of the retinal layers (figure 5). The patient was examined 3 months after the procedure and maintained visual acuity of 20/30 as well as similarity in the OCT examination. Retinography was performed in the OD, where it is possible to notice a decrease in macular brightness. (figure 6)



Figure 1

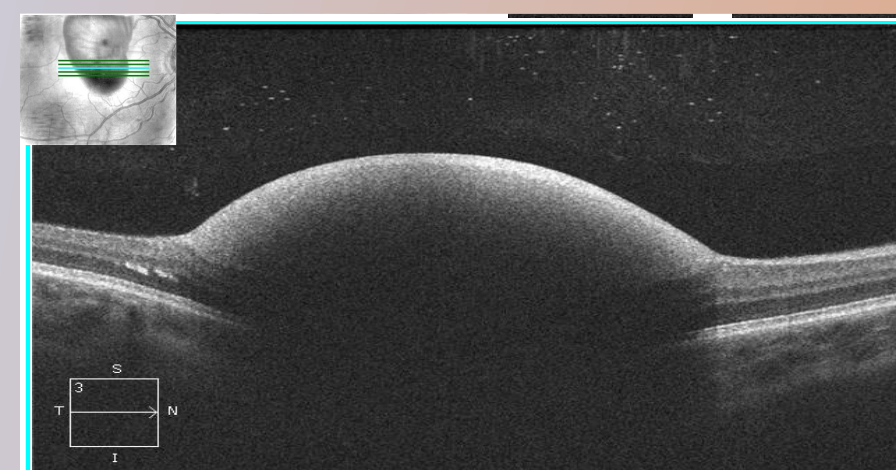


Figure 2



Figure 3



Figure 4

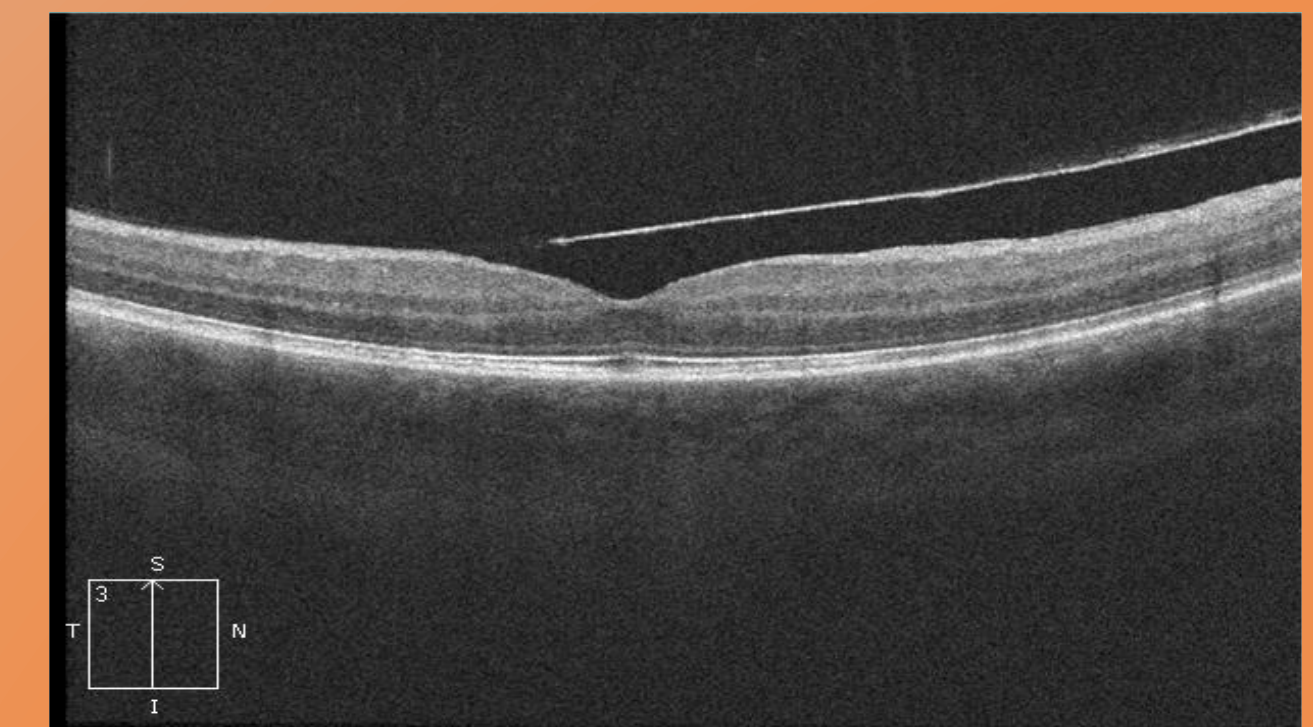


Figure 5

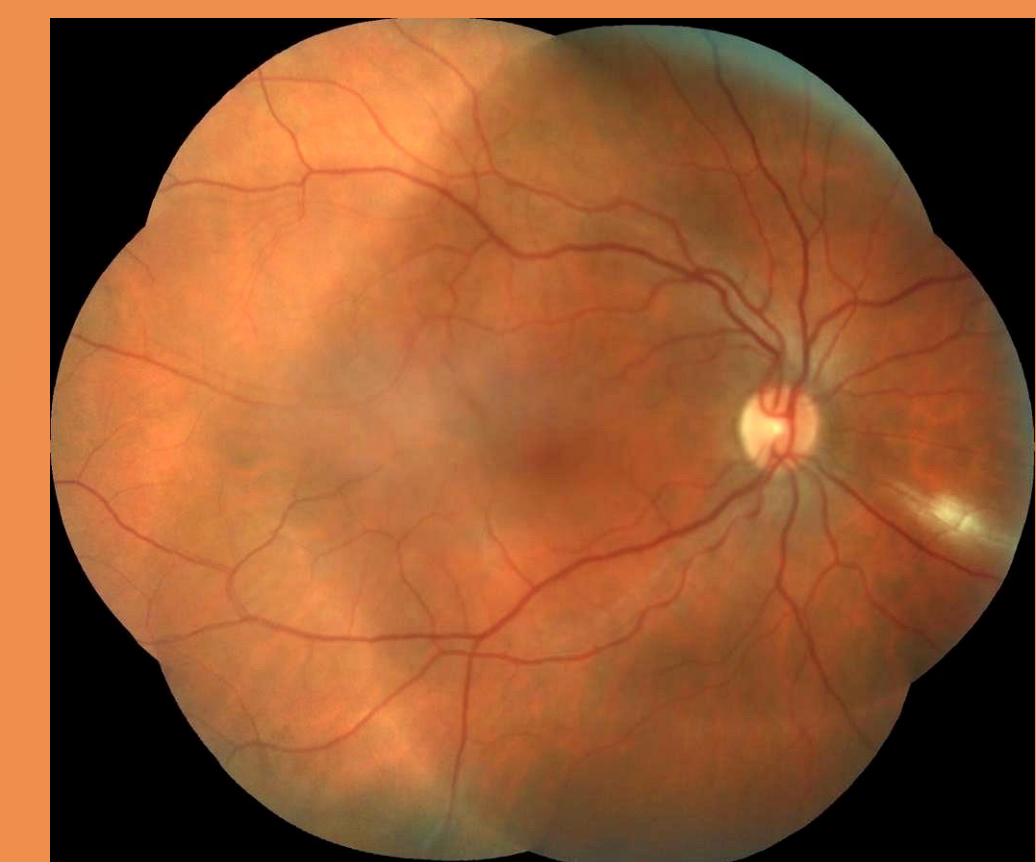


Figure 6

Discussion

Several studies have investigated the use of the Nd-YAG laser to disrupt the ILM and drain preretinal blood towards the vitreous. It is considered an inexpensive, effective and safe outpatient procedure for the treatment of premacular subhyaloid hemorrhage. Produces rapid blood drainage with restoration of visual function, avoiding more invasive vitreoretinal procedures. Furthermore, a quick visual recovery is desired by most young patients. This becomes particularly important for single eye patients and in bilateral cases. Timing is quite crucial for the successful drainage of blood through the hyaloidotomy opening. Previous studies have shown that premacular hemorrhage can clot or can bleed again after successful drainage (2,3). Cases of macular hole, epiretinal membrane and tractional retinal detachment after YAG laser have also been described in the literature(4). Other modalities include intravitreal gas injection (with or without t-PA), mobilizing hemorrhage in the foveal region(5). Treatment with posterior vitrectomy proved to be effective, with significant and immediate improvement in visual acuity, preventing even complications related to the presence of prolonged intraocular hemorrhages. A previous study suggests that premacular hemorrhages larger than 10 discs in diameter are a prognostic factor for the success of the procedure. The degree of improvement depends on the underlying and pre-existing macular damage(6,7). So, hyaloidotomy with Nd-YAG laser in this patient evolved with rapid improvement in visual acuity and without significant damage to the inner layers of the retina.

References

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