

Case Report

Video Available on:
www.meajo.org

Access this article online

Quick Response Code:



Website:
www.meajo.org

DOI:
10.4103/meajo.
MEAJO_139_20

Surgical Management of Hemorrhagic Retinal Detachment Secondary to Peripheral Exudative Hemorrhagic Chorioretinopathy

Valmore A. Semidey¹, Abdulaziz A. Al Taisan², Patrik Schatz^{1,3}, Ibrahim Taskintuna¹, Marco Mura¹

Abstract:

The purpose of the study is to report a case of peripheral exudative hemorrhagic chorioretinopathy (PEHCR), managed surgically with favorable visual outcome. A 66-year-old female presented with painless visual loss due to dense vitreous and subretinal hemorrhage extending from the far periphery to the macula. Pars plana vitrectomy (PPV) with subretinal tissue plasminogen activator (TPA) injection was performed resulting in good anatomical and visual outcome. PEHCR can present with severe visual loss. Surgical management with PPV and subretinal TPA injection might result in favorable anatomical and visual outcome.

Keywords:

Pars plana vitrectomy, peripheral exudative hemorrhagic chorioretinopathy, retinal detachment, tissue plasminogen activator

Introduction

Peripheral exudative hemorrhagic chorioretinopathy (PEHCR) is a rare, degenerative disease of the peripheral retina that usually presents with bilateral involvement in elderly patients. This entity typically appears as a subretinal mass in the temporal quadrant with significant perilesional pigmentary changes or exudation.^[1] Visual loss can result from its extension into the macula, choroidal neovascular membranes, or vitreous hemorrhage.^[2] PEHCR is described to be one of the pseudomelanomas, making the differential diagnosis challenging in many cases.^[3]

In this case report, we describe the management with pars plana vitrectomy

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: WKHLRPMedknow_reprints@wolterskluwer.com

(PPV) and injection of subretinal tissue plasminogen activator (TPA) in a patient with a hemorrhagic retinal detachment and vitreous hemorrhage secondary to PEHCR.

Case Report

A 66-year-old female with a history of type 2 diabetes mellitus and systemic hypertension presented to the emergency room with sudden painless visual decrease in the right eye. She had no history of intraocular surgery, injections, or laser photocoagulation. Visual acuity in the right eye was hand motion and in the left eye was 20/25. Intraocular pressure was 20 mmHg in OD and 13 mmHg in OS. Slit lamp examination was unremarkable with no iris neovascularization and mild nuclear sclerosis. Fundus examination in the right eye was not possible due to dense vitreous hemorrhage, while the left eye had 0.3 cup/disc ratio, mild nonproliferative

How to cite this article: Semidey VA, Al Taisan AA, Schatz P, Taskintuna I, Mura M. Surgical management of hemorrhagic retinal detachment secondary to peripheral exudative hemorrhagic chorioretinopathy. *Middle East Afr J Ophthalmol* 2021;28:57-9.

¹Vitreoretinal Division, King Khaled Eye Specialist Hospital, Riyadh, Saudi Arabia, ²King Faisal University, Al-Ahsa, Saudi Arabia, ³Department of Ophthalmology, Clinical Sciences, Skane County University Hospital, University of Lund, Lund, Sweden

Address for correspondence:

Dr. Valmore A. Semidey, King Khaled Eye Specialist Hospital, Riyadh, Saudi Arabia. E-mail: asemidey@hotmail.com

Received: 25-09-2020

Revised: 06-03-2021

Accepted: 16-03-2021

Published: 30-04-2021

diabetic retinopathy with dry macula, and no peripheral lesions. B scan ultrasound was performed in the right eye and reported vitreous hemorrhage and an exudative retinal detachment inferotemporally extending from the far periphery into the macula with dense subretinal opacities [Figure 1].

A 23-gauge three-port PPV was performed with careful examination of the peripheral retina and shaving of the vitreous base. Significant subretinal hemorrhage was found involving the temporal and inferotemporal retina extending from the periphery into the macula until the perifoveal area [Figure 2]. 0.3 ml of 25 µg/0.1 ml of TPA was injected into the subretinal space with a 41-gauge needle in an area of attached retina superior to the subretinal hemorrhage, and eventually, this bleb joined and diluted with the subretinal hemorrhage. Air–fluid exchange was performed, and sulfur hexafluoride 20% was injected into the eye [Video 1].

The patient was followed up closely, and once the gas disappeared, the vitreous hemorrhage recurred. This likely occurred from the subretinal hemorrhage liquefying and entering the vitreous cavity through the puncture site of the 41-gauge needle. A second vitrectomy was performed to washout the vitreous cavity, and endolaser was applied in the peripheral retina over the areas with pigmentary changes and residual subretinal hemorrhage.

Postoperative visual acuity in the right eye improved to 20/100 in the early stages. Follow-up visits have shown cystoid macular edema (CME) in the right eye that is being managed with intravitreal anti-vascular endothelial growth factor agents [Figure 3].

Discussion

PEHCR is a degenerative condition of the peripheral retina with difficult diagnosis. Most cases are diagnosed during routine eye examinations as incidental findings in the peripheral retina in patients who have good visual acuity. A large percentage of patients are referred as choroidal masses, making it one of the largest members of the pseudomelanomas.

Management is usually directed to the associated retinal pathology. In some cases, the natural course of this entity is self-limited. Shields *et al.*^[3] and Cebeci *et al.*^[4] found spontaneous regression in 89% and 76%, respectively.

Reduction in visual acuity appears when the peripheral subretinal exudation, fluid, or hemorrhage approaches the macula or choroidal neovascular membranes and CME appear. Several case series have described the use

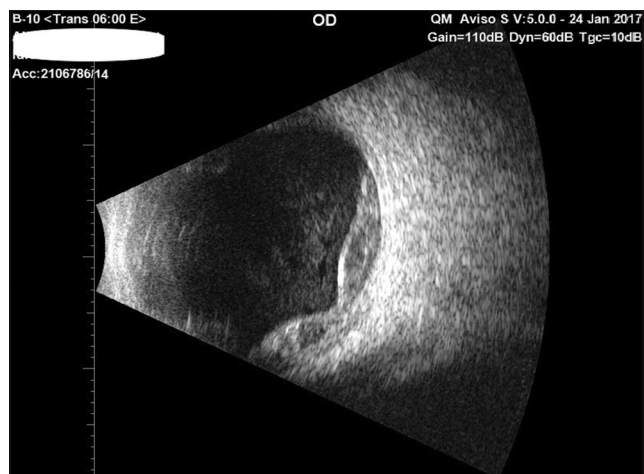


Figure 1: Preoperative B scan showing a retinal detachment with dense subretinal opacities corresponding to subretinal hemorrhage

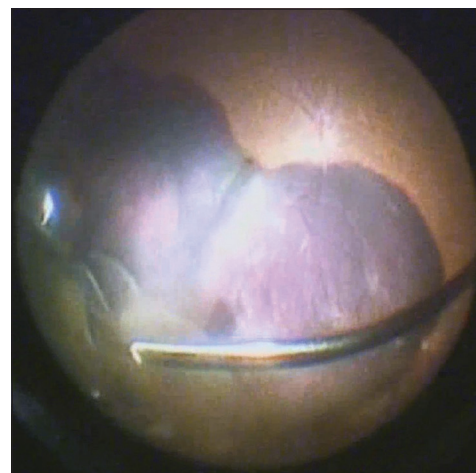


Figure 2: An intraoperative view showing subretinal hemorrhage involving the temporal and inferotemporal retina extending from the periphery into the macula until the perifoveal area

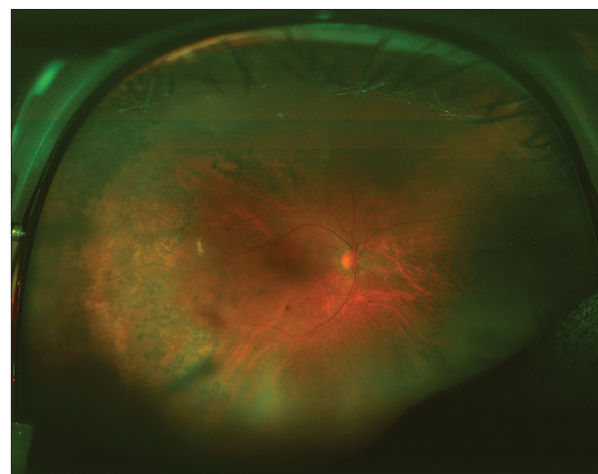


Figure 3: Postoperative ultrawide-field fundus photograph showing flat retina with pigmentary changes and laser scars temporally

of intravitreal bevacizumab^[5,6] and ranibizumab^[7] for successful management of these conditions.

In some rare cases, significant visual loss can be attributed to dense vitreous or massive subretinal hemorrhage. PPV has been reported in one such case with bilateral involvement.^[8] However, that case ended up with phthisis. In our case report, PPV with subretinal TPA injection was successfully performed with satisfactory anatomic and visual outcome. The patient underwent a second procedure to washout the vitreous cavity and to treat the affected areas in the periphery with endolaser, as we were unable to treat them during the first vitrectomy due to the massive hemorrhage. This combination could provide to be a useful alternative when sight-threatening vitreous hemorrhage, retinal detachment, and subretinal hemorrhage are present. The use of subretinal TPA with pneumatic displacement for submacular hemorrhage has been reported since 2011 by Hauptert *et al.*^[9] In our case, we elected to use it because the subretinal hemorrhage was massive, and although it started in the periphery, it was approaching the fovea.

In conclusion, peripheral exudative hemorrhagic chorioretinopathy can present with severe visual loss due to posterior extension of subretinal hemorrhage or dense vitreous hemorrhage. Surgical management with PPV and subretinal TPA injection might result in favorable anatomical and visual outcome.

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. Annesley WH Jr. Peripheral exudative hemorrhagic chorioretinopathy. *Trans Am Ophthalmol Soc* 1980;78:321-64.
2. Mantel I, Uffer S, Zografos L. Peripheral exudative hemorrhagic chorioretinopathy: A clinical, angiographic, and histologic study. *Am J Ophthalmol* 2009;148:932-80.
3. Shields CL, Salazar PF, Mashayekhi A, Shields JA. Peripheral exudative hemorrhagic chorioretinopathy simulating choroidal melanoma in 173 eyes. *Ophthalmology* 2009;116:529-35.
4. Cebeci Z, Dere Y, Bayraktar Ş, Tuncer S, Kır N. Clinical features and course of patients with peripheral exudative hemorrhagic chorioretinopathy. *Turk J Ophthalmol* 2016;46:215-20.
5. Alforja MS, Sabater N, Giralt J, Adán A, Pelegrín L, Casaroli-Marano R. Intravitreal bevacizumab injection for peripheral exudative hemorrhagic chorioretinopathy. *Jpn J Ophthalmol* 2011;55:425-7.
6. Pınarci EY, Kilic I, Bayar SA, Sızmaç S, Akkoyun I, Yılmaz G. Clinical characteristics of peripheral exudative hemorrhagic chorioretinopathy and its response to bevacizumab therapy. *Eye (Lond)* 2013;27:111-2.
7. Takayama K, Enoki T, Kojima T, Ishikawa S, Takeuchi M. Treatment of peripheral exudative hemorrhagic chorioretinopathy by intravitreal injections of ranibizumab. *Clin Ophthalmol* 2012;6:865-9.
8. Goldman DR, Freund KB, McCannel CA, Sarraf D. Peripheral polypoidal choroidal vasculopathy as a cause of peripheral exudative hemorrhagic chorioretinopathy: A report of 10 eyes. *Retina* 2013;33:48-55.
9. Hauptert CL, McCuen BW 2nd, Jaffe GJ, Steuer ER, Cox TA, Toth CA, *et al.* Pars plana vitrectomy, subretinal injection of tissue plasminogen activator, and fluid-gas exchange for displacement of thick submacular hemorrhage in age-related macular degeneration. *Am J Ophthalmol* 2001;131:208-15.