

## Total retinal detachment occurring after minor head trauma

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### Abstract

The objective of this article is to present the case of a patient with a severe decrease of visual acuity that occurred after an apparently minor head injury. Following the investigations, the patient was diagnosed with rhegmatogenous retinal detachment that was triggered by a fall from the same level and which occurred on a background of lattice degeneration. In this case, a minor trauma caused a severe complication because the patient had a contributing factor for the complication. The patient was operated and the end result was satisfactory.

**Key words:** minor trauma, rhegmatogenous retinal detachment, posterior vitrectomy, lattice degeneration

### Introduction

Rhegmatogenous retinal detachment is a severe ophthalmological disease and has a frequency of 1 new case per 10.000 persons each year. It is caused by retinal breaks, and in 50% of cases there are multiple breaks. [1] Known risk factors include: high myopia, cataract surgery, ocular trauma, age over 40 and personal or collateral medical history of rhegmatogenous retinal detachment. Also, there are multiple types of peripheral retinal degenerative lesions that can predispose retinal detachments: lattice degeneration (6% of general population and 30% of those with rhegmatogenous retinal detachment [2]), snail track degeneration and degenerative retinoschisis [2]. Lattice degeneration appears as an area of thin retina, with crisscrossing white lines and small round

holes[3]. The treatment for rhegmatogenous retinal detachment is strictly surgical, the objective being anatomical reattachment of the retina and functional closure of all the breaks. [4]

### Case presentation

We present a patient aged 63, retired, who came to our clinic accusing severe decrease in visual acuity that suddenly occurred a week previously. Medical history revealed that the patient had suffered a mild head concussion, produced after a fall from the same level by slipping on a wet surface. On clinical examination, the patient's visual acuity were: right eye hand motion (HM) and the left eye 0, 9 without correction – 1 with correction. The anterior pole showed stromal iris atrophy with

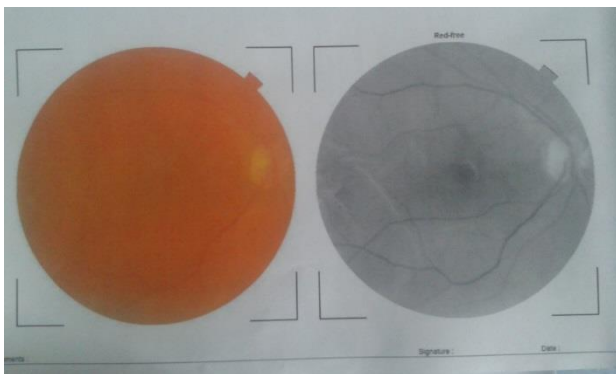
light corticonuclear lens opacities, the rest being normal (**Fig. 1**). Goldmann tonometry showed that the intraocular pressure (IOP) was 15 mm Hg in the right eye and 17 mm Hg in the left eye, and the gonioscopic aspect was of an open angle (Shaffer grade 3) without pigment, neovessels or other pathological elements.

The other eye also showed stromal iris atrophy with light corticonuclear lens opacities, the rest being normal.



**Fig. 1.** Right eye anterior pole aspect

After pupil dilation, the posterior pole examination revealed slight vitreous hemorrhage and total retinal detachment in the right eye, and a normal left eye fundus (**Fig. 2**).



**Fig. 2.** Right posterior pole aspect with total retinal detachment only visible under red-free light because of slight vitreous hemorrhage

The patient was admitted in emergency in order to surgically resolve the retinal detachment. Pars plana vitrectomy was performed through 25 gauge scleral incisions,

during which two retinal breaks were observed in the vicinity of a degeneration lattice area in upper periphery of the retina. In order to reattach the retina, liquid perfluorocarbon was injected into the vitreous cavity until below the breaks and the sub retinal space was drained of fluid, then liquid-air exchange was performed, the liquid perfluorocarbon was extracted and after that endolaser retinopexy was performed, both around the rupture zones and the lattice degeneration area. The eye was left with air as a tamponade agent. The patient was instructed to keep a prone position in order to enhance tamponing.

During the follow-up consultation the next day, the patient had her retina attached under the air bubble, without signs of infection, and a topical antibiotic and anti-inflammatory steroid were recommended as topical treatment. Visual acuity in the right eye was only hand movement because of refraction altered by the gas bubble. One week and one month follow-ups showed the retina attached. At 3 months follow-up, the retina was attached, right eye visual acuity was 0.6 with correction, and intraocular pressure of 15 mm Hg (**Fig. 3**).



**Fig. 3.** Final posterior pole aspect

## Discussions

This case is special because it shows the situation of a patient who suffered an apparently minor head trauma without direct involvement of the eyeball, but followed by a severe ocular complication amid a predisposing factor. The risk factor (lattice degeneration) is of great importance, because it formed a more sensitive

area to produce retinal beaks as a starting point for retinal detachment. Also, the patient sought treatment shortly after the visual acuity dropped a fact that allowed a prompt intervention with high chances of recovery. The final visual acuity was 0.6 with correction, without increased intraocular pressure.

## Conclusions

This case stands out because it shows how a simple slip on a wet surface can produce total retinal detachment, given the presence of a predisposing factor. It is important to thoroughly examine each patient at every presentation, look for conditions such as these, and inform the patient about them. The patient must avoid even slight traumas and excessive physical exercises, and present themselves for emergency examination at the slightest drop in visual acuity or narrowing of their visual fields in order to

benefit from the best possible outcome. The eye remains fragile, with the risk of redetachment in case of a new trauma, but also spontaneously.

## Disclosures

None

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## References

1. Marieta Dumitrache , Capitolul 21, Tratat de oftalmologie, vol III, 2012, Bucuresti, Editura universtara „Carol Davila”, 1159-1163
2. Jack J Kanski, Brad Bowling, Clinical ophthalmology: a systematic approach, Seventh edition, 2011, Elsevier Saunders, 698-721
3. Alastair K.O.Denniston, Philip I.Murray , Oxford Handbook of Ophtalmology, Second edition, 2009 Oxford University Press, 420-428
4. Jose J Martinez-Toldos, Jairo E Hoyos , Step by Step Vitrectomy, 2013, Jaypee Brothers Medical Publishers (P) Ltd, 112-156