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Letter to the Editor

The safety of modified bilateral electroconvulsive therapy in retinitis pigmentosa

Sir

Retinitis pigmentosa (RS) is a set of hereditary retinal diseases that are characterised by degeneration of rod and cone cells in the retina which leads to progressive visual loss (Hartong et al., 2006). RP is often associated with psychological symptoms such as depression and anxiety (Hahm et al., 2008). Depression that is severe enough or associated with the possibility of suicide often necessitates the use of electroconvulsive therapy (ECT) (Fink et al., 2014). This article presents a case of a patient with RP and severe depressive episode that necessitated ECT for symptom relief with the aim to add to the literature on this topic.

A 46 year old male engineer accompanied by family members presented himself to the psychiatry outpatient services with a one year duration of complaints suggestive of a diagnosis of severe depressive episode with psychotic symptoms. He had also recently made 3 suicide attempts with a high degree of intentionality. There was a past history of 4 similar episodes in the last 15 years that had been treated by other psychiatrists in the region. At presentation, his treatment history was reviewed which revealed adequate trials with a variety of antidepressants including tricyclic antidepressants and serotonin selective reuptake inhibitors. He had never received ECT in the past. On interviewing, he expressed hopelessness and thoughts of suicide. His score on the Hamilton depression rating scale (HDRS) was 32. The patient also gave a history of night blindness and progressive visual loss since his teens. He was a diagnosed case of bilateral RP since 2014. Considering his clinical situation, he was offered inpatient admission and started on 100 mg of sertraline and 200 mg of quetiapine per day. A course of ECT was considered appropriate. ECT was offered and the patient and family members provided written informed consent for the same. A detailed ophthalmological evaluation was done prior to ECT. This revealed that his best corrected visual acuity was counting fingers two meters in the right eye and 20/80 in the left eye. Anterior segment examination of both eyes was normal. Posterior segment of both eyes revealed waxy pallor, arteriolar attenuation and bony spicules involving the periphery as well as the macular area. Fundus autofluorescence of both eyes confirmed the clinical findings. Optical coherence tomography (OCT) of the both eyes revealed loss/ discontinuity of photoreceptor layers i.e. inner and outer segments of photoreceptors, ellipsoid zone and external limiting membrane. OCT of the RE showed epiretinal membrane also. There was no cystoid macular edema in both eyes on OCT. Visual fields of both eyes showed extensive field loss with approximately central 10-degree sparing. These findings were consistent with a diagnosis of RP. The patient was cleared for ECT and subsequently received 6 modified bi-temporal brief-pulse ECTs (all effective) with Thiopentone sodium as an anaesthetic agent, succinylcholine used as muscle relaxant and glycopyrrolate used as an anticholinergic drug over 2 weeks. He responded well to treatment and no cognitive or visual side effects were reported or observed. A detailed ophthalmological evaluation was done following the final ECT and revealed no significant changes. Figs. 1 and 2 show the fundi of each eye and the OCT finding of each eye respectively the day following the last ECT. The patient is currently on follow-up 1 month after the last ECT and is maintaining improvement and does not report any change in ophthalmological status.

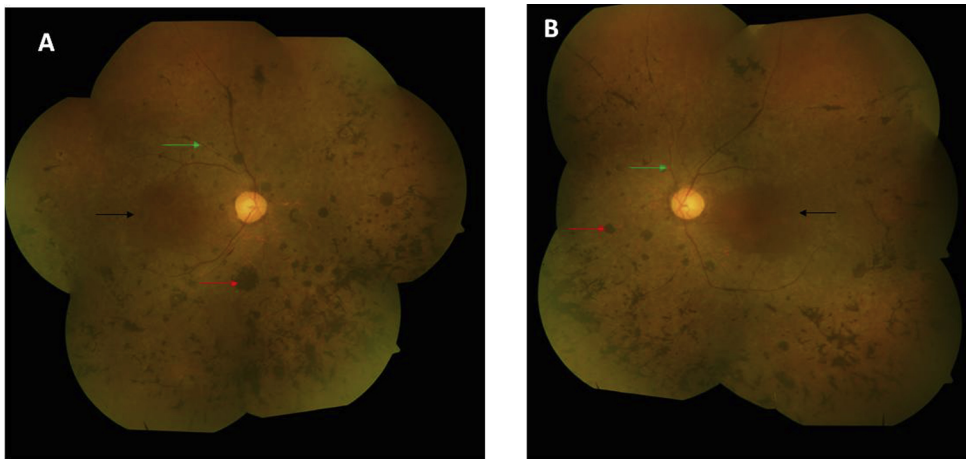

Fig. 1. A and B: Fundus photograph of the right and left eye of the patient showing classic triad of waxy pallor, arteriolar attenuation (Green arrows) and bony spicules (red arrows). Disease is very extensive with sparing of the central part of macula in both eyes (Black arrows).

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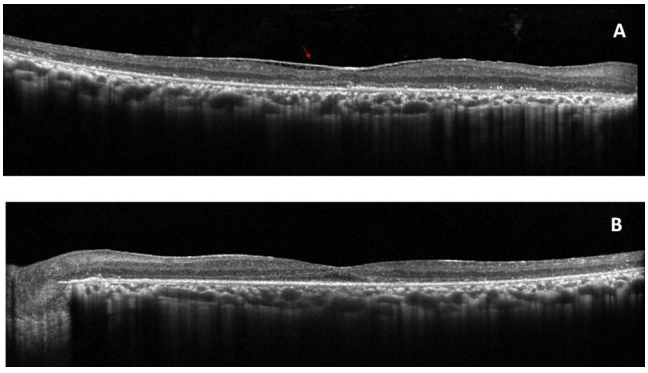

Fig. 2. A and B: Optical coherence tomography of the both eyes showing loss of inner and outer segments of photoreceptors, ellipsoid zone and external limiting membrane. OCT of the RE showed epiretinal membrane (Red arrows).

The effect of ECT on the eye is not well described. Glaucoma and retinal detachment are often mentioned as relative contraindications for the use of ECT even though there are case reports of the use of ECT in each of these conditions (Baghai and Möller, 2008). The evidence base for the use of ECT in other ophthalmological diseases is less well described. The use of ECT is often associated with retinal changes of unknown significance (Ucar et al., 2018; Dhar and Chaudry, 1980). In a case series of patients who were receiving ECT, the optic nerve head and retina was assessed following ECT using OCT. This revealed that a significant percentage of patients had abnormal retinal variables such as cup/disc ratio and cup volume while retaining normal intraocular pressure. However the significance or the persistence of changes was not commented upon (Shahraki et al., 2017). To the best of our knowledge, there is one case report of the use of ECT in RP in which 9 unilateral ECTs were delivered without any adverse event (Chang et al., 2011). The ophthalmological findings in our patient were consistent with a diagnosis of RP. Unlike the case series described above, we did not find any post ECT change in the retina. This might be because of the already diseased state of the retina. However, our experience suggests that at least in the short term, the use of ECT in RP is safe and is not associated with any additive ophthalmological consequences.

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Anish Shouan, Honeydeep Joshi
Department of Psychiatry, Postgraduate Institute of Medical Education and Research, Chandigarh 160012, India

Bruttendu Moharana, Ramandeep Singh
Advanced Eye Center, Postgraduate Institute of Medical Education and Research, Chandigarh 160012, India

Shubh Mohan Singh*
Department of Psychiatry, Postgraduate Institute of Medical Education and Research, Chandigarh 160012, India
E-mail address: singh.shubhmohan@pgimer.edu.in.

* Corresponding author.