

Vitreous hemorrhage caused by scleral depression during laser treatment for aggressive posterior retinopathy of prematurity

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Ablation for threshold retinopathy of prematurity (ROP) is a procedure with a high benefit-to-risk ratio. Vitreous hemorrhage is a rare complication which may occur during this procedure.

We report a case which developed vitreous hemorrhage in both eyes while doing laser using a scleral depressor.

A premature male child was born through normal delivery at gestational age of 32 weeks and birth weight of 1420 grams.

A diagnosis of aggressive posterior retinopathy of prematurity (APROP) was made in both eyes. Laser was done using diode infrared in both eyes under topical anesthesia.

While doing the laser, the fragile new vessels bled and resulted in a vitreous hemorrhage over the posterior pole. The child finally ended up having stage 4B retinal detachments in both eyes, for which lens sparing vitrectomy was performed.

Our report suggests that vitreous hemorrhage could occur secondarily to the intraocular pressure changes caused by the use of scleral depressor. This complication should be kept in mind while doing laser, and a sudden release of the depressor should be avoided, especially in zone 1 cases.

Key words: retinopathy of prematurity, lasertherapy, vitreous hemorrhage

INTRODUCTION

Laser ablation for threshold retinopathy of prematurity (ROP) is a procedure with a high benefit-to-risk ratio. Vitreous hemorrhage is a rare complication which may occur during this procedure. It is reported to occur in 7.9% of cases (1). Clinically important vitreous hemorrhage defined as a rather severe hemorrhage able to completely obscure visualization of the underlying retina, increases the odds of retinal detachment (2).

We report a case which developed vitreous hemorrhage in both eyes while doing laser using a scleral depressor.

MATERIALS AND METHODS

A premature male child was born through normal delivery at gestational age of 32 weeks and with the birth weight of 1420 grams. He developed respiratory distress syndrome and neonatal sepsis. He was treated with intravenous antibiotics and was on supplemental oxygen for 20 days.

The first ocular examination was performed at 37.2 weeks of postconceptional age. The eyes were dilated using a combination of 0.4% tropicamide and 2.5% phenylephrine, one drop applied to each eye twice 30 min before examination, each drop separated by 15 minutes. Examination was done with indirect ophthalmoscopy using a 20 D lens and an Alfonso speculum. A drop of 0.5% proparacaine hydrochloride was applied for topical anesthesia. After taking consent, laser was done using diode infrared in both eyes under topical anesthesia.

RESULTS

Anterior segment examination with 20 D lens showed rigid pupils with iris neovascularisation in both eyes. Posterior segment examination showed hazy media with a mild dilatation of posterior pole vessels, which was seen to extend only in zone 1 in both eyes. Flat new vessels were seen with early fibrosis nasally (Fig. 1a, 1b). A diagnosis of aggressive posterior retinopathy of prematurity (APROP) was made in both eyes. Laser was done using diode infrared in both eyes under topical anesthesia. A Schoket type scleral depressor was used to fix the eyeball as well as to depress the periphery.

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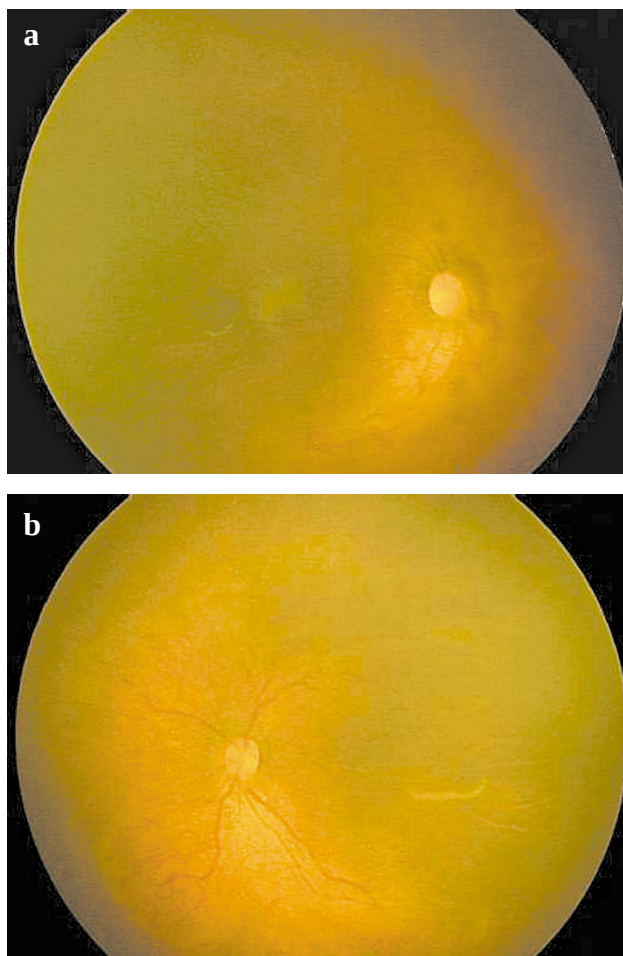


Fig. 1a, 1b. Retcam pictures of right and left eyes showing aggressive posterior retinopathy of prematurity with early fibrosis nasal to optic disc

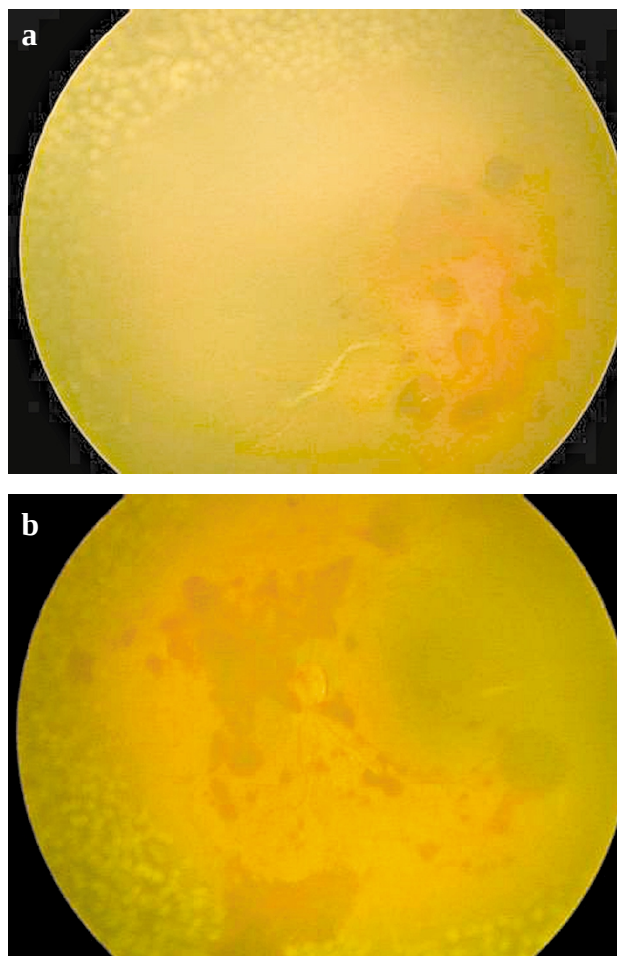


Fig. 2a, 2b. Retcam pictures of right and left eyes taken immediately after laser ablation, showing vitreous hemorrhage over posterior pole and fresh laser marks in the periphery

The right eye was done first. While doing the laser, the fragile new vessels bled and resulted in a vitreous hemorrhage over the posterior pole (Fig. 2a). The rest of the peripheral avascular retina was lasered. The left eye was then done, and it also resulted in a similar outcome (Fig. 2b). A total of 4324 and 4835 spots were given in the right and left eyes, respectively. As the peripheral avascular retina was lasered, the hemorrhage over the posterior poles of both eyes was chosen to observe. The child was followed weekly. The hemorrhage seemed to be stable, but later went on to vitreous organization and fibrous tissue formation. Eight weeks after laser the child finally ended up having stage 4B retinal detachments in both eyes, for which lens sparing vitrectomy was performed.

DISCUSSION

Vitreous hemorrhage is a rare complication to occur while doing laser for ROP. Vitreous organization and vitreous hemorrhage are known to speed up the development of retinal detachment (3). In our case, vitreous hemorrhage developed as a result of alternate increase and decrease in intraocular pressure while using a scleral depressor. The

fragile new vessels could not cope up with these pressure changes and led to bleeding in both eyes. Our report suggests that vitreous hemorrhage could occur secondarily to the intraocular pressure changes caused by the use of a scleral depressor. This complication should be kept in mind while doing laser, and a sudden release of the depressor should be avoided, especially in zone 1 cases.

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