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Displacement of Ex-Press Shunt Head Outside the Conjunctiva in A Uveitis Patient, A Case Report

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Abstract

Ex-PRESS mini shunt is recently involved in trabeculectomy surgery with a good outcome. We present a 14-year-old male with a history of juvenile idiopathic arthritis, non-granulomatous anterior uveitis, and secondary glaucoma operated with trabeculectomy Ex-PRESS shunt in his right eye. The patient developed extrusion of the implant head outside the conjunctiva after 4 years of surgery. The patient admitted to the hospital with removal of Ex-PRESS shunt under general anesthesia with the suturing of the scleral defect and closure of the conjunctiva.

Key Words: Uveitis; Glaucoma; Ex-PRESS Mini Shunt

Introduction:

Glaucoma filtration surgery is designated to reduce intraocular pressure (IOP) when maximal medical therapy fails to lower IOP sufficiently and prevent optic nerve damage [1]. Trabeculectomy surgery is the most common procedure for glaucoma filtration surgery since 1968 [2]. The placement of the Ex-PRESS glaucoma filtration device (Alcon, Fort Worth, TX) under a partial thickness scleral flap is one of the adjustments of glaucoma filtration surgery. The Ex-PRESS glaucoma filtration device is stainless steel (biocompatible, magnetic resonance imaging-compatible) non-valved device that shifts aqueous humor from the anterior chamber to the subconjunctival space and forms a filtration bleb, as seen in standard trabeculectomy [3]. The Ex-PRESS device eradicates the need for both peripheral iridectomy and removal of a deep corneoscleral tissue block compared with trabeculectomy, but these rewards require aligning the device properly to avoid contact with either the cornea or the iris. Evidence suggests that adding trabeculectomy using the Ex-PRESS device leads to a lower complication rate and a faster visual recovery [4]. We present a rare complication of displacement of the Ex-PRESS shunt head outside the conjunctiva with successful removal and wound closure without complications.

Case Description:

A 14-year-old male with juvenile idiopathic arthritis and non-granulomatous anterior uveitis under treatment of mycophenolate mofetil and Prednisolone eye drops. The patient developed secondary angle-closure glaucoma in both eyes with intraocular pressure (IOP) of 41 mmHg right eye and 24 mmHg left eye, treated medically by combined Dorzolamide and Timolol eye drops. The history of this patient started in January 2015, his visual acuity was counting fingers (CF) right eye and 20/200 left eye, posterior subcapsular cataract both eyes, posterior synechiae and no fundus view (Figure 1)

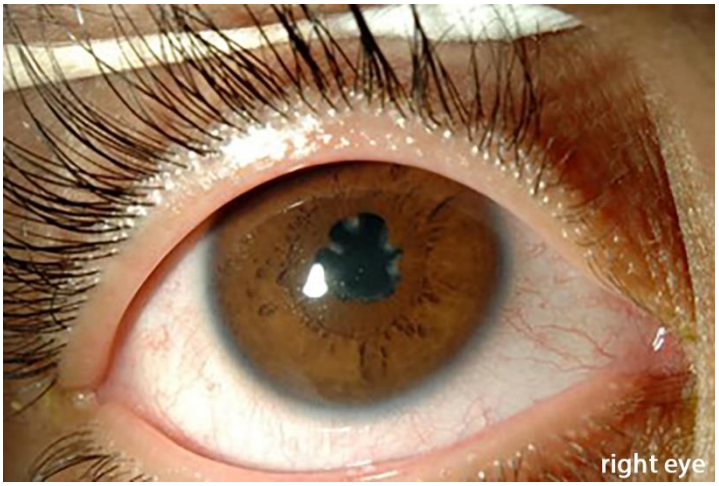

Figure 1: posterior synechiae (OD)

In February 2016, the patient had trabeculectomy with Mitomycin C in his right eye in superior nasal quadrant, but the surgery failed after one month. Subsequently, repeated trabeculectomy with Ex-PRESS mini shunt under sclera flap had been done. One month later, the patient presented with an IOP of 35 mmHg right eye, Suture lysis was done to control IOP and Brimonidine eye drop was started in his right eye which resulted in good IOP control. In 2017, lensectomy with anterior vitrectomy was done in both eyes with best corrected visual acuity was CF right eye and 20/25 left eye with healthy discs on fundoscopy. Three months after lensectomy, the IOP raised again in the right eye, and Ahmed valve glaucoma surgery was done, and IOP was controlled until this date. On December 2020, the patient presented for follow-up with an exposed head of Ex-PRESS shunt outside the conjunctiva without an aqueous leak in his right eye (Figure 2). His best corrected visual acuity of CF right eye and 20/25 left eye, IOP of 16 mmHg right eye and 15 mmHg left eye, and the patient was admitted to the hospital. Ex-PRESS was removed with suturing of scleral wound using vicryl 8-0. The conjunctiva over it undermined, approximated, and sutured Postoperatively right eye, the wound covered well, IOP 10 mmgH on no medication, no bleb leak, deep and formed anterior chamber. The patient was discharged from the hospital and seen after one week and one month without any complications, with controlled IOP and closed wound (Figure 3).

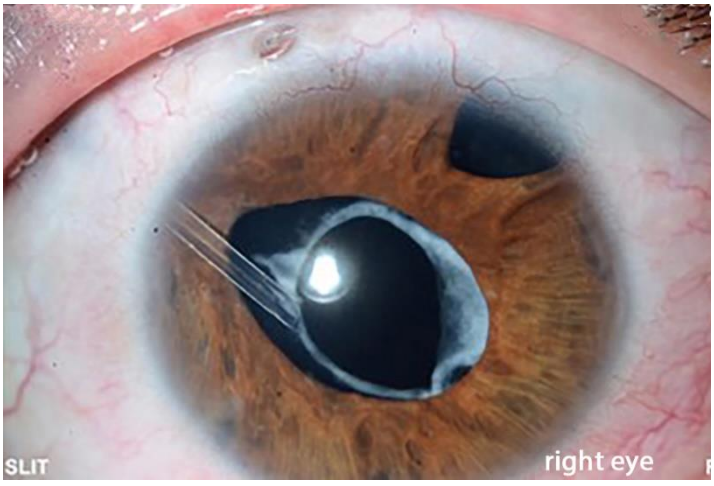

Figure 2: an exposed head of Ex-PRESS shunt outside the conjunctiva without an aqueous leak (OD

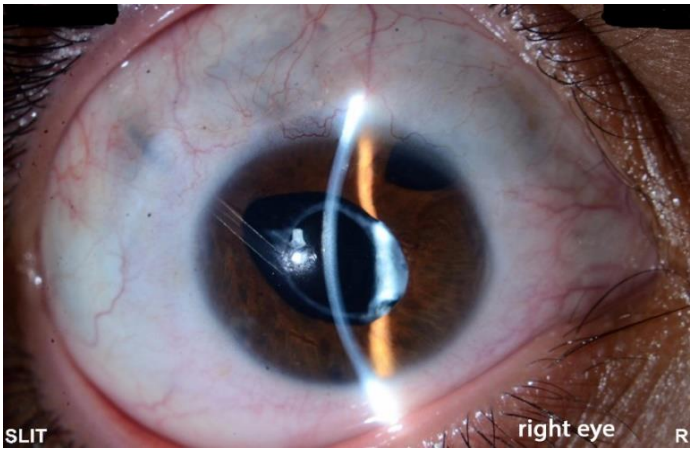

Figure 3: one-month follow-up (OD)

Discussion and conclusion:

Glaucoma is one of the leading causes of blindness worldwide is, and it continues to be a significant challenge in public health [5]. The rate of failure of trabeculectomy in uveitis glaucoma is high due to intraocular inflammation. In our patient, a decision taken to repeat the surgery of trabeculectomy with Ex-PRESS Minishunt despite closed angle is the extreme deep anterior chamber and possible less inflammation as no iridectomy.

When the Ex-PRESS shunt operation is placed under the conjunctiva, it can have complications such as hypotony, conjunctival erosion, shunt extrusion, or exposure. Dahan and Carmichael performed implantation under the scleral flap to prevent such complications [6]. Yong Ju Song presented impending extrusion of Ex-PRESS shunt in a 56-year-old Asian woman that after seven months of surgery, the internal opening was tilted to the corneal endothelium obliquely in the anterior chamber, and the external plate was prominent in the subconjunctival space [7]. Stein JD et al.'s recognized eight eyes of Ex-PRESS shunt exposure; two had been implanted under the scleral flap, and six others under the conjunctiva [8]. Kourin AS et al. reported one case of Ex-PRESS shunt scleral-flap implantation required shunt removal [9].

In our case, the Ex-PRESS shunt head was protruded outside the conjunctiva after four years of implantation. Removal of the shunt was a mandatory decision to avoid intraocular infection.

Extrusion and exposure of Ex-PRESS Minishunt is not a common complication. In our patient, the head of an implant was seen outside the conjunctiva. The removal of the shunt was mandatory to avoid endophthalmitis.

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Informed written consent for publication had been obtained from the patient.

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