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SHORT COMMUNICATION

Spontaneous extrusion of a stainless steel glaucoma drainage implant (Ex-PRESS)

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PURPOSE. *To report a case of spontaneous extrusion of a stainless steel glaucoma drainage implant (Ex-PRESS).*
METHODS. *An Ex-PRESS was implanted under the conjunctiva in a 76-year-old man with primary open-angle glaucoma.*
RESULTS. *Two years after implantation, the Ex-PRESS extruded spontaneously. Despite this adverse event, there was no increase in intraocular pressure.*
CONCLUSIONS. *This is the first report of spontaneous extrusion of an Ex-PRESS device. Implanting the device under a scleral flap should be considered to avoid adverse events such as extrusion or conjunctival erosion. (Eur J Ophthalmol 2006; 16:751-3)*

KEY WORDS. *Aqueous drainage system, Ex-PRESS, Glaucoma*

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INTRODUCTION

The Ex-PRESS drainage device is a non-valved, flow-restricting implant designed to reduce intraocular pressure (IOP) in open-angle glaucoma. It is built with a 2.5-mm-long stainless steel device with a 400 mm diameter. This device was introduced to offer a shorter, less invasive alternative to conventional glaucoma surgery. The implant is inserted, under topical or local anesthesia, at the limbus under a conjunctival flap. It diverts the aqueous humor from the anterior chamber to the subconjunctival space, producing a conjunctival bleb, in a similar way to trabeculectomy. The procedure can be performed alone or in combination with phacoemulsification (1).

Case report

A 76-year-old man was referred with symptoms of foreign body sensation in his left eye, lasting for 3 days. History was significant for phacoemulsification and Ex-PRESS shunt implantation in another hospital, 2 years before presentation. Pre-surgery IOP had been 23 mmHg, decreasing to 16 mmHg after the two procedures.

The slit lamp examination revealed incomplete extrusion of the drainage device, with normal cornea and conjunctival erosion (Fig. 1). In this patient the Ex-PRESS had been implanted too anteriorly, at an incorrect angle. The patient's best-corrected visual acuity was 20/25 and IOP was 16 mmHg, without any antiglaucoma medication. Fundus examination revealed a cup-disc ratio of 0.4. We referred the patient for surgery, but 2 hours later total spontaneous extrusion of the implant occurred without any complication. We treated the patient with topical antibiotic (ofloxacin) 4 times/day for 7 days. Two days later the patient reported that the foreign body sensation had disappeared. No fluorescein staining of the ocular surface was noted, and the IOP remained at a normal value (16 mmHg). A routine examination performed 6 months later revealed 20/25 best-corrected visual acuity and 17 mmHg IOP (Fig. 2). Optic disc findings were the same as before the extrusion.

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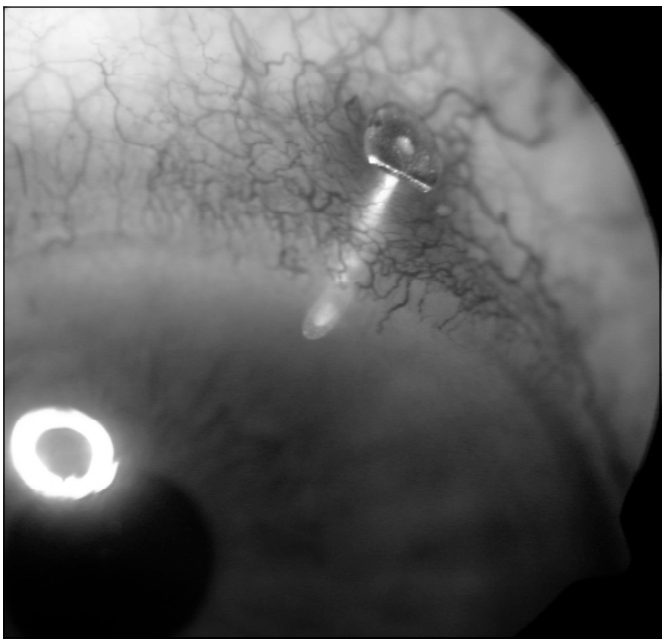

Fig. 1 - *Anterior segment of the patient with conjunctival erosion and incomplete extrusion of the drainage device. This latter is implanted too anteriorly, at an incorrect angle; the outer plate is not flush with the scleral surface.*

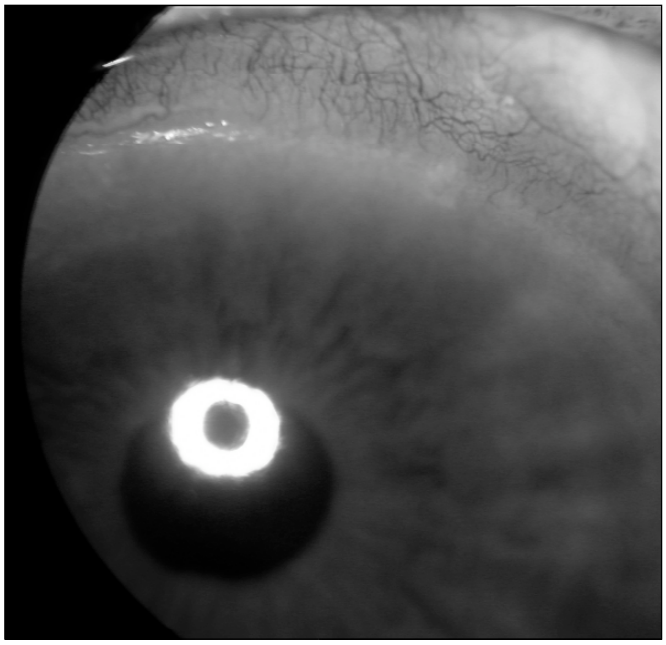

Fig. 2 - *Anterior segment 6 months after the Ex-PRESS spontaneous extrusion.*

DISCUSSION

There are few publications in the peer-reviewed literature about complications following Ex-PRESS shunt implantation. Traverso et al reported cases of hypotony, hyphema, device rotation, and conjunctival erosion (2). Stewart et al described cases of suprachoroidal hemorrhage and a case of endophthalmitis (3). Garg et al presented a case of trauma-induced extrusion of an Ex-PRESS glaucoma shunt (4). To date there are no reports of spontaneous extrusion of an Ex-PRESS device. In our case we observed extrusion of the device, which was not associated with IOP elevation or ocular hypotony. At the 2004 ARVO annual meeting (5), Carmichael and Dahan presented a new technique for Ex-PRESS glaucoma implants, which they placed under a scleral flap in what amounts to a trabeculectomy without sclerectomy or peripheral iridectomy. The advantages of implanting the device under a flap are the development of a low-profile bleb, minimal postoperative inflammation, and more stability of the implant, with low risk of device extrusion.

In our case the IOP was normal, despite extrusion of the implant. One possible mechanism is that cataract removal increases outflow facility and eliminates lens-induced angle narrowing, as demonstrated by several studies (6).

To avoid complications it is mandatory to correctly position this implant. In this patient, the device was implanted too anteriorly, at an incorrect angle, and the outer plate was not flush with the scleral surface.

This glaucoma shunt is effective for lowering IOP, serves to reduce antiglaucoma medications, and may save surgical time compared to glaucoma surgery. The correct positioning of the implant is the most crucial consideration for preventing complications. However, this case report demonstrates that even when performed incorrectly and followed by extrusion, there was no sight-threatening complication.

The authors have no financial interest.

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