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Short communication

Refractory aqueous misdirection syndrome: A possible complication of penetrating keratoplasty☆

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ABSTRACT

Clinical case: An 85-year-old woman presented with a flat anterior chamber of the left eye, severe ocular hypertension, and a normal ultrasound examination in the day following a penetrating keratoplasty (PK). The clinical status did not respond to maximum medical therapy, laser posterior capsulotomy, anterior hyaloidotomy, and complete 23 G vitrectomy. The patient refused further intervention, and light perception was lost after 6 months of follow-up.

Discussion: This is the first report of refractory aqueous misdirection syndrome following primary PK. Despite maximum medical and surgical management efforts, aqueous misdirection syndrome subsequent to primary PK may have a catastrophic outcome.

Síndrome de dirección inadecuada del humor acuoso refractario: una posible complicación de la queratoplastia penetrante

Palabras clave:
Síndrome de dirección inadecuada del humor acuoso
Glaucoma maligno
Queratoplastia penetrante
Trasplante de córnea

RESUMEN

Caso clínico: Una mujer de 85 años presentó atalamia del ojo izquierdo e hipertensión ocular grave con ecografía normal al día siguiente de la queratoplastia penetrante (QP). Este estado clínico no ha respondido a la terapia médica máxima, con láser y a la vitrectomía 23 G completa. La paciente rechazó otras intervenciones quirúrgicas y la percepción de la luz se perdió después de 6 meses de seguimiento.

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Discusión: Esta es la primera descripción de síndrome de dirección inadecuada del humor acuoso refractario tras la QP no precedida de trasplante corneal previo. A pesar de los esfuerzos médicos y quirúrgicos máximos, el síndrome de dirección inadecuada del humor acuoso tras QP puede tener una evolución catastrófica.

Introduction

Aqueous humor misdirection syndrome (AHMS) is a rare secondary closed angle glaucoma caused by abnormal conductivity of the aqueous humor through the vitreous and the anterior rotation of ciliary processes that exert pressure against the equator of the lens or the anterior hyaloid.[1–4] The physiopathology of AHMS comprises a range of factors including anterior position of the ciliary body and small eyes, forward displacement of the lens and changes in hyaloid permeability.[1–4] AHMS was described by von Graefe (1869) and is characterized by narrow anterior chamber (AC) or athalamia, anterior displacement of the iridolenticular diaphragm and high intraocular pressure (IOP) despite permeable iridotomies.[1–4] AHMS presents more frequently after filtrating glaucoma surgery and even though it can occur after several incisional surgeries, particularly in eyes with chronic closed angle glaucoma[1,4] it has also been associated to medical treatments and laser.[1,2,4]

Due to the rarity of AHMS, the literature is based on case reports and small series.[1,4,5] AHMS after penetrating keratoplasty (PK) is even rarer and has been reported only after keratoplasty for treating corneal graft rejection.[6] A case of refractory AHMS after PK not preceded by corneal transplants is reported.

Clinical case

Female, 85, with medically controlled pseudoexfoliative glaucoma and corneal decompensation, with visual acuity of 1/10 and the left eye, who underwent PK surgery in May 2015. Clinical records included bilateral cataract surgery in 2005. The records for 2005 reported that angles were open (Schaffer grade 3) and ultrasound biometry revealed normal axial lengths (left eye: 23.78 mm). Presurgery assessment comprised IOP of 14 mmHg in the right eye and 15 mmHg in the left eye (Goldmann tonometry), deep AC and normal pseudophakia. Gonioscopy showed open angle (Schaffer grade 3) and absence of peripheral anterior synechiae in the right eye, but it was not possible to perform the tests in the left eye due to corneal opacity. No intra-surgery complications were reported. At the end of the surgery, viscoelastic was removed and the AC was filled with balanced saline solution. Subsequently, treatment with acetazolamide, prednisolone and topical chloramphenicol was initiated.

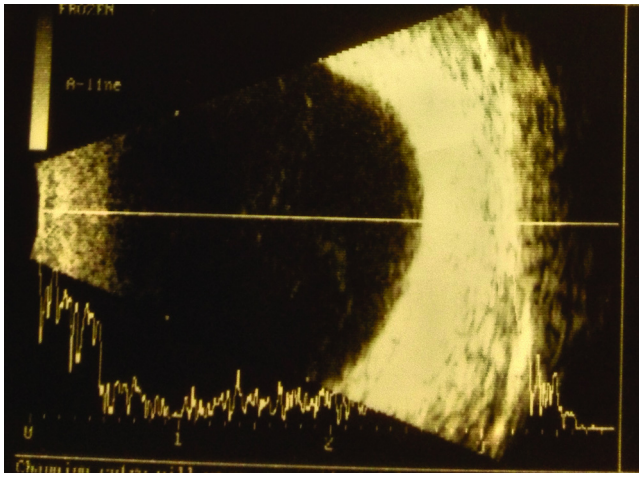

Fig. 2 – Left eye ocular echograph (mode B) showed normal axial length, vitreous syneresis and normal posterior pole anatomy.

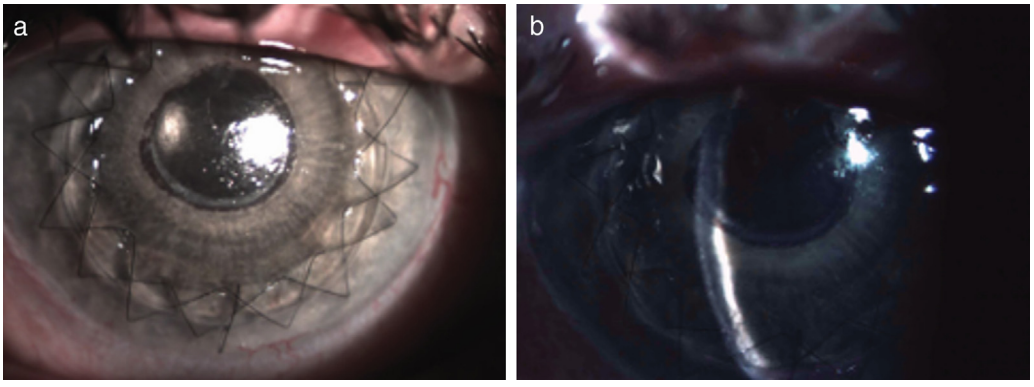

Fig. 1 – (a) Slit lamp photographs taken on postop day one. (b) This assessment revealed athalamia with endothelial contact.