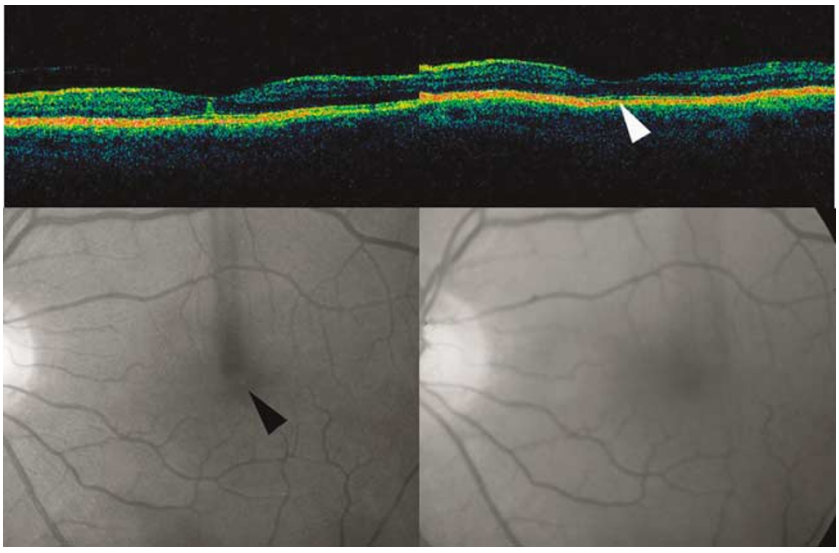

Figure 1 Optical coherence tomography (OCT) showing the area of photoreceptor disruption (top left). Fundus photograph showing small light dot at the fovea (bottom left—black arrowhead). OCT showing resolution of significant structural changes and possible discontinuity at the level of the outer segments following complete vitreous detachment (top left—white arrowhead). Fundus photograph after vitreofoveal separation showing resolution of the dot (bottom left).

full-thickness macular hole and a second case where a stage 1A hole resolved after the discontinuation of the drug.[2,3]

This case is the first that we are aware of suggesting an association between the development of foveal changes and a single dose of pilocarpine. Although pilocarpine is rarely used to treat glaucoma, it is still used for diagnostic testing of a dilated pupil, therapeutic miosis, and reversal of pupillary dilation. The fact that the drug is used less commonly than in the past means that there is also less familiarity with the potential retinal side effects and it is important for clinicians to remember that there is a possibility of both macular and peripheral retinal traction with even one time use of this medication.

Acknowledgements

The authors have no proprietary interests or research funding related to the subject matter.

References

1 Fraunfelder FT, Fraunfelder FW In: *Drug-Induced Ocular Side Effects*, 5 ed Woburn: Butterworth–Heinemann, 2001, pp 587–593.
2 Benedict WL, Shami M. Impending macular hole associated with topical pilocarpine. *Am J Ophthalmol* 1992; **114**: 765–766.
3 Garlikov RS, Chenoweth RG. Macular hole following topical pilocarpine. *Ann Ophthalmol* 1975; **7**: 1313–1316.

JD Walker[1] and MM Alvarez[2]

[1]Allen County Retinal Surgeons, Indiana University School of Medicine, Fort Wayne, IN, USA
[2]Fort Wayne, IN, USA
E-mail: jonwalker22@gmail.com

Eye (2007) **21,** 1430–1431; doi:10.1038/sj.eye.6703023; published online 19 October 2007

Sir,

MR imaging diagnosis of familial Duane's retraction syndrome by documentation of the absence of the abducens nerves

Duane's retraction syndrome (DRS) is a congenital abduction deficit of the eyeball accompanied by retraction of the globe on attempted adduction, and by upshoots or downshoots of the affected eye on adduction.[1] However, these characteristic diagnostic signs of DRS may not be manifested in some patients, particularly in children[2] and thus magnetic resonance (MR) imaging has been utilized for the diagnosis of DRS.[3] Absence of the abducens nerves documented by MR imaging in familial DRS has not been reported.

Case report

A 30-year-old man (Case 1) was referred for the evaluation of horizontal limitation of eye movement since birth. He had esophoria of 12 prism dioptres in primary position. Abduction was completely absent in both eyes. He showed mild retraction of the globe, but did not show typical upshoots or downshoots of either eye on attempted adduction (Figure 1a). His corrected visual acuity was 20/20 in both eyes. He had a myopic astigmatism of −0.75 Dsph (Diopter in sphere) −1.00 Dcyl × 10 A in the right eye and −1.00 Dsph −1.00 Dcyl × 170 A in the left eye. He recognized 3 out of

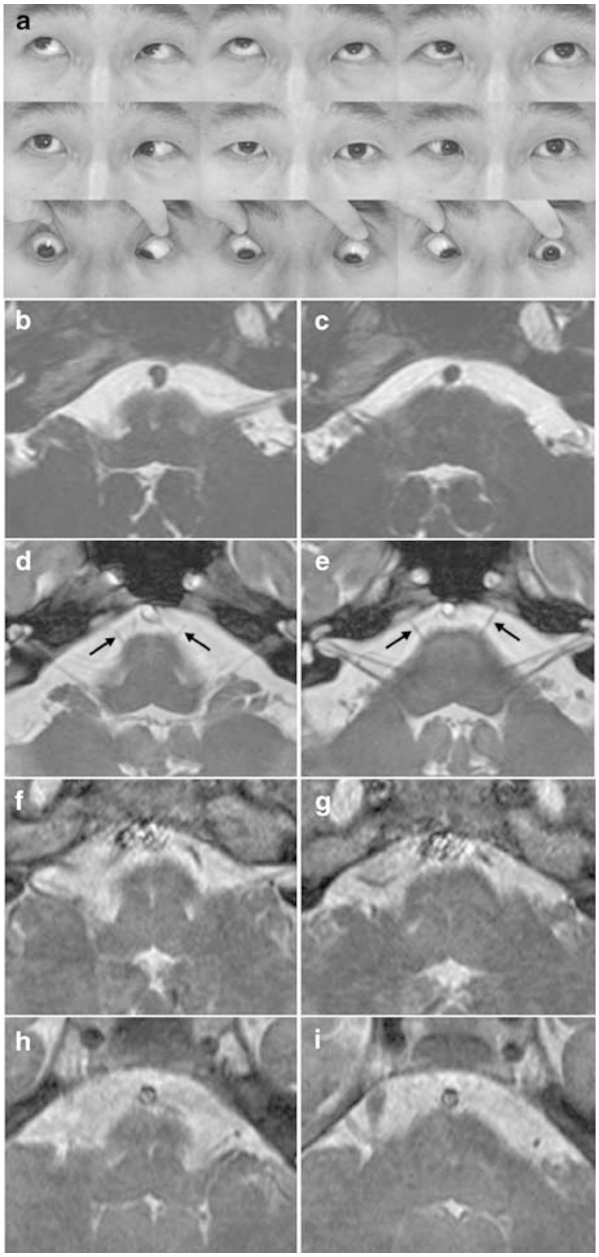

Figure 1 Duane's retraction syndrome type 1 in Cases 1–3. (a) In Case 1, ocular versions demonstrate bilateral abduction deficit and a small degree of narrowing of the lid fissure on adduction in both eyes. (b, c) In Case 1, right and left abducens nerves are not identified on the two axial magnetic resonance (MR) images obtained at the level of the pontomedullary junction. (d, e) Note normal abducens nerves in a normal adult. Two axial MR images show the path of the right and left abducens nerves (arrows), as linear dark structures emerging from the pontomedullary sulcus (d), coursing in the superior oblique direction toward the clivus (e). (f–i) In Case 2 (f, g) and Case 3 (h, i), right and left abducens nerves are not identified as in Case 1.

10 circles (140 s of arc) of Randot stereotest (Stere Optical Co, Inc., Chicago, IL, USA). MR imaging was conducted in axial plane to visualize the cisternal segment of the abducens nerve using a thin-section gradient-echo T2-weighted imaging with a voxel size of $0.43 \times 0.43 \times 0.7$ mm. Bilateral abducens nerves were absent (Figure 1b and c), contrary to the clearly delineated bilateral abducens nerves in a normal adult (Figure 1d and e).

A 34-month-old boy (Case 2) and a 5-month-old girl (Case 3) were referred for the evaluation of horizontal limitation of eye movement since birth. They had complete limitation of abductions in both eyes. They showed no retraction of the globe or upshoots or downshoots of either eye on attempted adduction. Abductions were completely limited in both eyes. They fixed and followed a 5-inch object near to either eye. They had orthotropia in the primary position with increasing esotropia in the right or left gaze. Cycloplegic refraction showed a hyperopic astigmatism of $+1.75$ Dsph -0.75 Dcyl $\times$ 90 A in the right eye and $+1.25$ Dsph -0.50 Dcyl $\times$ 90 A in the left eye in Case 2, and of $+1.75$ Dsph -0.25 Dcyl $\times$ 180 A in both eyes in Case 3. Case 2 only recognized Randot forms (250 arc sec) with Randot stereotest. On thin-section MR images, bilateral abducens nerves were absent (Figure 1f–i).

Comment

This study reports bilateral DRS of three family members. MR imaging documentation of familial DRS has not been described. The right and left abducens nerves were not identified in all three affected family members. Even though they did not show all the typical signs of DRS, however, on the basis of the MR findings of the previous reports,[4–6] this family probably had a variant of DRS.

In conclusion, we describe familial DRS of three patients in whom the abducens nerves were absent bilaterally. MR imaging was useful for the differential diagnosis of abduction deficit in familial cases.

References

1 Duane A. Congenital deficiency of abduction associated with impairment of adduction, retraction movements, contraction of the palpebral fissure and oblique movements of the eye. *Arch Ophthalmol* 1905; **34**: 133–159.
2 Noonan CP, O'Connor M. Greater severity of clinical features in older patients with Duane's retraction syndrome. *Eye* 1995; **9**: 472–475.
3 Kim JH, Hwang JM. Usefulness of MR imaging in children without characteristic clinical findings of Duane retraction syndrome. *AJNR Am J Neuroradiol* 2005; **26**: 702–705.
4 Parsa CF, Grant E, Dillon Jr WP, du Lac S, Hoyt WF. Absence of the abducens nerve in Duane syndrome verified by magnetic resonance imaging. *Am J Ophthalmol* 1998; **125**: 399–401.
5 Kim JH, Hwang JM. Presence of the abducens nerve according to the type of Duane's retraction syndrome. *Ophthalmology* 2005; **112**: 109–113.
6 Demer JL, Ortube MC, Engle EC, Thacker N. High-resolution magnetic resonance imaging demonstrates abnormalities of motor nerves and extraocular muscles in patients with neuropathic strabismus. *J AAPOS* 2006; **10**: 135–142.

JH Kim[1] and J-M Hwang[2]

[1]Department of Radiology, Seoul National University College of Medicine, Seoul National University Bundang Hospital, Seongnam-si, Korea
[2]Department of Ophthalmology, Seoul National University College of Medicine, Seoul National University Bundang Hospital, Seongnam-si, Korea
E-mail: hjm@snu.ac.kr

Conflict of interest: None

Eye (2007) **21,** 1431–1433; doi:10.1038/sj.eye.6702945; published online 3 August 2007

Sir,

Intravitreal bevacizumab (Avastin) for the treatment of bilateral acquired juxtafoveal retinal telangiectasis associated with choroidal neovascular membrane

We report the treatment of bilateral acquired juxtafoveal retinal telangiectasis[1] complicated with CNV, with intravitreal delivery of drugs targeting vascular endothelial growth factor (VEGF).

Case report

The first case concerns a 52-year-old woman with bilateral acquired juxtafoveal retinal telangiectasis. Visual acuity (VA) in the right eye was 20/50 and 20/40 in the left eye, owing to macular oedema. Eleven months later, the patient developed a CNV in the right eye (Figure 1a and b). The patient was treated in the right eye with photodynamic therapy with Visudyne, followed by two intravitreal injections of 1.25 mg bevacizumab 4 and 8 weeks later. One month after the intravitreal injections, the CNV had regressed on fluorescein angiography (FA) (Figure 1c and d), macular oedema had decreased, and VA remained stable at 20/50.

The second case concerns a 62-year-old man who presented with bilateral acquired juxtafoveal retinal telangiectasis, complicated with a CNV in the right eye. VA in the right eye was 20/60 and in the left eye 20/20. The right eye was treated with photodynamic therapy, resulting in an atrophic scar. Five years later however, the patient complained of a sudden decrease in VA of the left

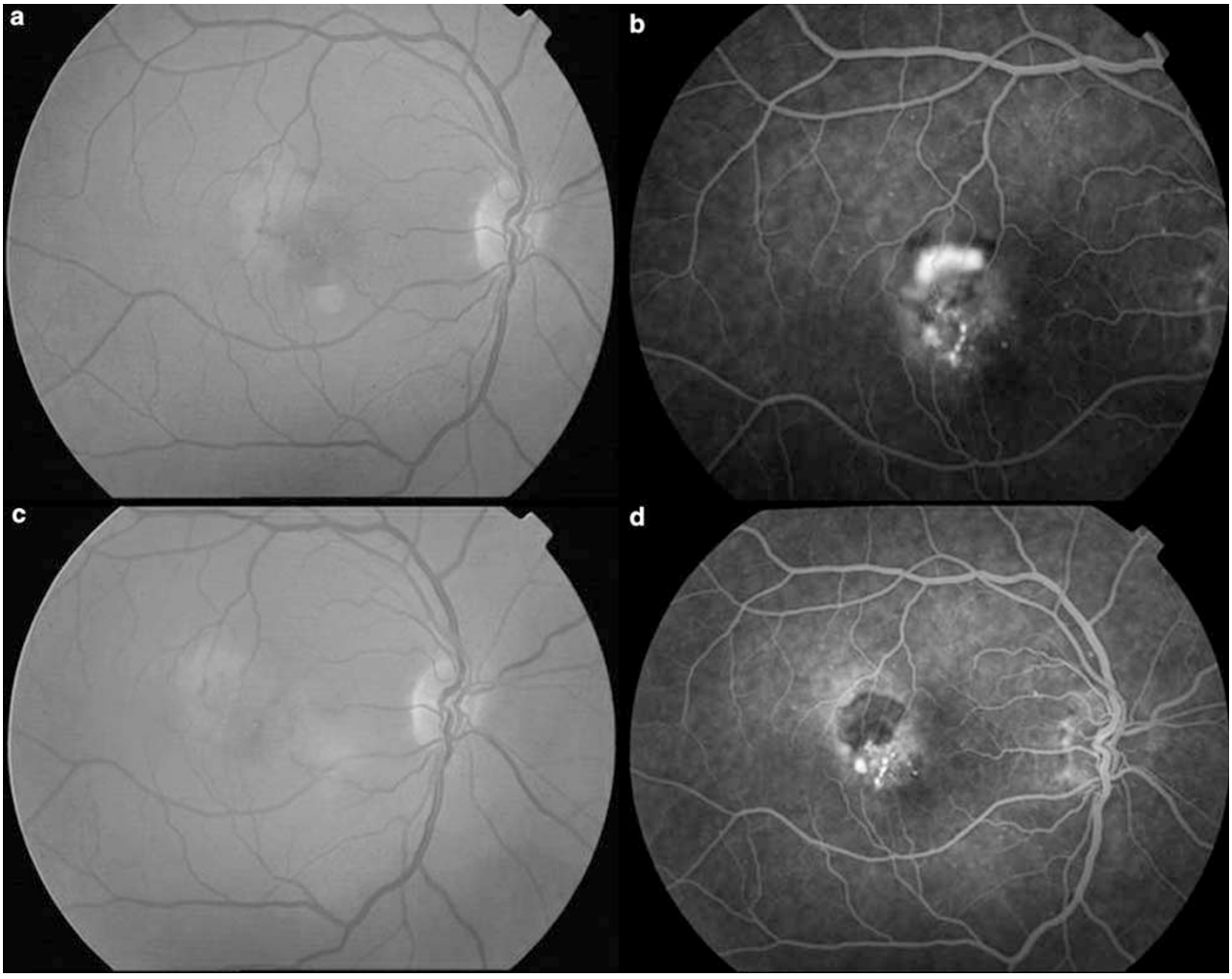

Figure 1 For figure caption refer page 1434.