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LETTERS TO THE JOURNAL

Sir,

Ciliary body dysplasia in megalophthalmos anterior diagnosed using ultrasound biomicroscopy

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Megalocornea is a corneal abnormality[1] and occurs in three patterns: simple megalocornea unassociated with other ocular abnormalities; megalophthalmos anterior with megalocornea, iris and angle abnormalities as well as buphthalmos in infantile glaucoma.[2] Megalophthalmos anterior is a rare, most X-linked recessive, nonprogressive bilaterally symmetrical condition.[3,4] In comparison to simple megalocornea, eyes with megalophthalmos anterior have enlargement of the iris-lens diaphragm and ciliary ring in addition to the cornea.[3] The megalophthalmos anterior patients present a very deep anterior chamber depth (AC depth) and a vitreous index (vitreous length/axial length × 100) below 69%.[5]

The pathogenesis of simple megalocornea and megalophthalmos anterior is unknown. There may be a large cornea (keratodysgenesis), iris and angle abnormalities (iridogoniodysgenesis), or a combination of these.[2]

The differentiation between simple megalocornea, megalophthalmos anterior and primary infantile glaucoma is often difficult, but very important, as in the latter case surgical treatment prevents blindness.[5]

We describe a case of megalophthalmos anterior with ciliary body dysplasia, diagnosed using ultrasound biomicroscopy.

Case report

A 23-year-old, healthy man was seen in our outpatient department with bilateral symmetric megalocornea (vertical diameter 14.0 mm). His dead grandfather on the mother's side had a known megalophthalmos anterior.

Visual acuity with glasses was 20/16 in both eyes. The myopic refraction was 6.0 D in the right eye and 5.0 D in the left eye. Corneal curvature was normal (K-readings: right eye 41.50/42.75 × 8; left eye 41.25/42.50 × 10). Slit-lamp examination showed a clear cornea, an enlargement of the complete anterior segment of the eye and peripheral iris transillumination defects. There was no lento- or iridodonesis and no Krukenberg's spindle. Gonioscopy revealed a wide open angle with excessive mesenchymal tissue. Intraocular pressure was 10 mmHg in both eyes. Signs of glaucoma were absent. The optic nerve heads did not show any pathological findings and computed perimetry was normal.

Biometrically measured anterior chamber depth was increased to 5.3 mm in the right and 5.2 mm in the left eye. Lens thickness was 3.8 mm and vitreous index 66% in both eyes.

We perform an ultrasound biomicroscopy examination in both eyes with radial and transverse sections of the globe at the 3, 6, 9 and 12 o'clock position. In both eyes ultrasound biomicroscopy shows a cornea with normal thickness, open angle (62 degree), thinning of the root of the iris and insertion of ciliary processes on the posterior surface of the peripheral iris. The distance between ciliary processes

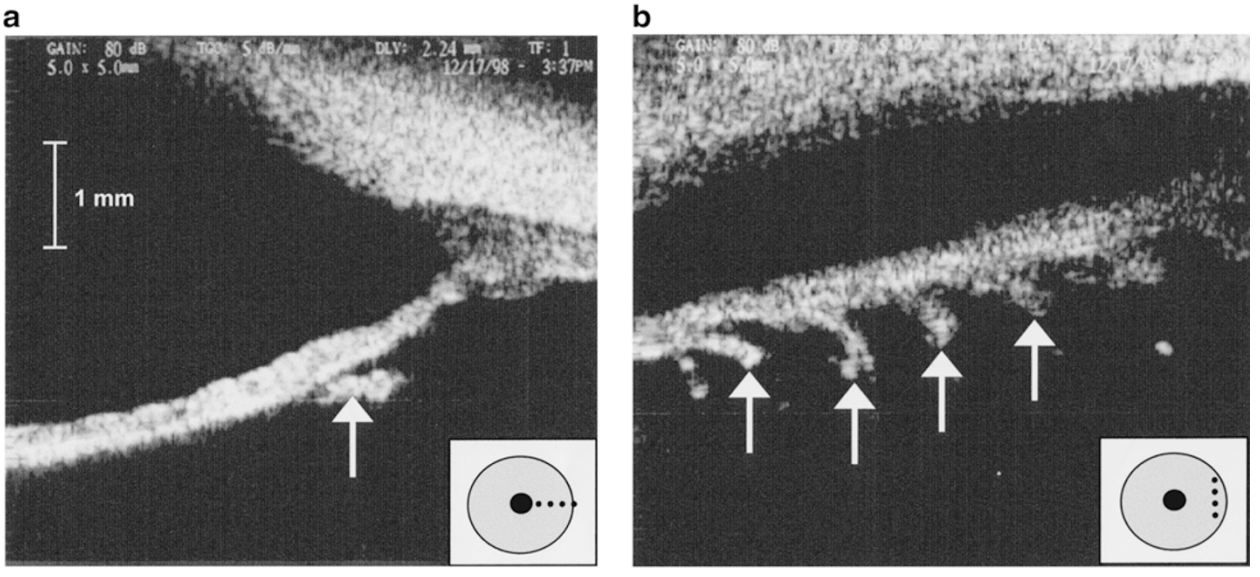

Figure 1 Ultrasound biomicrocopy in radial (a) and transverse (b) sections of the globe shows open angle, thinning of the root of the iris and insertion of ciliary processes on the posterior surface of peripheral iris (arrows). Dotted line: plane of transducer motion.

and iris root was 1309 mm. Ciliary processes were absent in the normal region of ciliary body (Figure 1).

Megalophthalmos anterior with ciliary body dysplasia was diagnosed.

Comment

Our case of megalophthalmos anterior demonstrates that the enlargement of the iris-lens diaphragm and ciliary ring during eye development (keratodysgenesis and irido*ciliary*goniodysgenesis) can result in an insertion of ciliary processes on the posterior surface of peripheral iris.

Arcus lipoides, mosaic corneal dystrophy, pigment dispersion, cataract and lens dislocation are associated ocular anomalies.[6] To our knowledge, ciliary body dysplasia in megalophthalmos anterior has not yet been described.

In a case of buphthalmos due to infantile glaucoma, normal insertion with a prolongation of ciliary processes has been seen by ultrasound biomicroscopy.[7] However, ultrasound biomicroscopy examinations of ciliary body in megalophthalmos anterior have not yet been performed.

We emphasize that in cases with megalocornea, ultrasound biomicroscopy is a helpful, additional tool for examination of the ciliary body. Perhaps ciliary body dysplasia may be a further feature for distinguishing megalophthalmos anterior from buphthalmos.

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Sir,

Multilayered amniotic membrane transplantation for partial thickness scleral thinning following pterygium surgery

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Scleral thinning and necrosis is a serious complication of pterygium surgery. It is commonly seen after chemotherapy or irradiation to prevent recurrence.[1] Scleral patch graft[2] or lamellar patch graft with preserved corneosclera[3] is usually performed in cases of severe thinning to restore the normal ocular surface integrity. We report two cases of partial thickness scleral thinning (scleral dellen) with thinning of adjacent cornea in one case (corneoscleral dellen), both of which were treated with multilayered amniotic membrane transplantation, suggesting that this surgical procedure can be an alternative treatment in this clinical situation.

Case 1

A 30-year-old female presented to us on 16 October 1999, with complaints of pain and discomfort in the right eye of 1 month duration. She had undergone pterygium excision in that eye 1 month back and the referring physician had noted scleral thinning postoperatively. On examination, she had a visual acuity of 20/20 in the right eye and 20/30 in the left eye. Slit-lamp examination revealed superficial scarring involving the nasal cornea in the right eye. Adjacent sclera showed thinning (Figure 1a) and was avascular. Gentamicin sulphate 0.3% four times a day along with artificial tears were prescribed. The patient underwent multilayered amniotic membrane transplantation over the area of scleral thinning.

The procedure was performed under peribulbar anaesthesia. Four millilitres of 2% xylocaine with adrenaline and 3 ml of 0.5% bupivacaine with hyalase were injected. Preserved human amniotic membrane was used in the procedure. Human amniotic membrane was prepared and preserved by the