2-1-2022

Hyperreflective band on anterior segment optical coherence tomography

Zaynab Sajjadi
Thomas Jefferson University

Zeynep Bas
Thomas Jefferson University

Carol L Shields
Thomas Jefferson University

Fairooz P. Manjandavida, Bangalore, India
Carol L. Shields, Philadelphia, USA

Hyperreflective band on anterior segment optical coherence tomography

A 63-year-old African American man with no pertinent past medical history presented with a newly recognized pigmented spot in the right eye (OD). He was referred for possible iris melanoma. On examination, visual acuity was 20/30 in both eyes (OU) and intraocular pressures were 16 mmHg OD and 14 mmHg in the left eye (OS). The left eye was normal anteriorly and funduscopically. The right eye demonstrated normal corneal epithelium and stroma, but an area of pigmentation was seen on the corneal endothelium.

What is Your Next Step?

A. Plaque brachytherapy
B. Observation
C. Descemet's stripping automated endothelial keratoplasty (DSAEK)
D. Fine-needle aspiration biopsy.

Findings

The pigmentation was flat with geographic margins and extended from 3:00 to 6:00 o'clock on the corneal endothelium [Fig. 1a and b]. Gonioscopy showed no pigment in the angle and there was no visible iris cyst. Fundus evaluation was normal. Imaging with anterior segment optical coherence tomography revealed a retrocorneal hyperreflective band [Fig. 1c and d]. By ultrasound biomicroscopy, there was no iris or ciliary body cyst/mass. These features were consistent with retrocorneal pigmented membrane and observation was advised.

Diagnosis: Retrocorneal pigmented membrane

Correct answer: B.

Discussion

Retrocorneal pigmented membrane is a rare condition with few reported cases in the literature.[1-3] Although the pathogenesis is not well known, various types of cells have been described on the posterior corneal surface including pigmented macrophages, corneal endothelial cells with phagocytosed pigment granules, iris stromal melanocytes, and iris pigment epithelial cells. This finding is believed to develop as a result of trauma, inflammation, intraocular surgery such as penetrating keratoplasty or cataract extraction, or spontaneous rupture of a free-floating iris pigment epithelium (IPE) cyst.[1,2] Pigmented retrocorneal membrane can also mimic corneal or iris melanoma and thus warrants evaluation to rule out malignancy.[3] The lesion should be monitored as, in rare instances, it can proliferate and lead to vision loss or secondary glaucoma.[2] In this case, vision was preserved and with no previous ocular trauma, inflammation, or surgery, we suspect the membrane developed from rupture of a free-floating IPE cyst.[1]

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

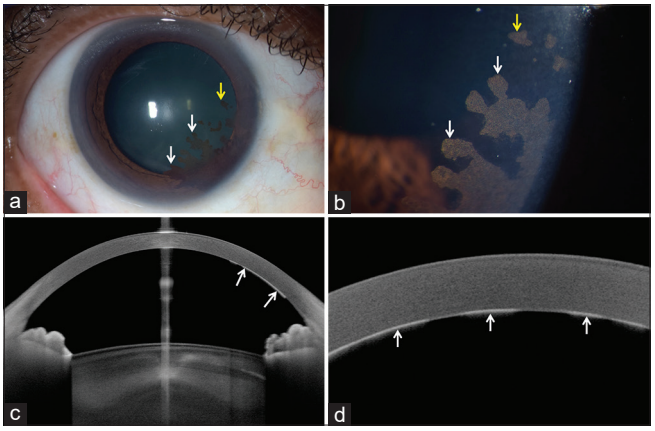

Figure 1: (a) Standard and (b) high-power slit-lamp photography OD showing geographic corneal endothelial pigmentation (white arrows) and islands of pigment (yellow arrow) inferonasally. (c) Anterior segment optical coherence tomography showing a hyperreflective band (arrows) on the corneal endothelium and (d) abrupt transition from isolated islands of pigment (arrows) to normal-appearing endothelium.

Financial support and sponsorship

Support provided by the Eye Tumor Research Foundation, Philadelphia, PA (CLS). The funders had no role in the design and conduct of the study; in the collection, analysis, and interpretation of the data; and in the preparation, review, or approval of the manuscript. Carol L. Shields, M.D. has had full access to all the data in the study and takes responsibility for the integrity of the data.

Conflicts of interest

There are no conflicts of interest.

References

1. Türkoğlu EB, Shields CL, Ünal M. Retrocorneal pigmented membrane. J Fr Ophtalmol 2021;44:99-100.
2. Snip RC, Green WR, Kreutzer EW, Hirst LW, Kenyon KR. Posterior corneal pigmentation and fibrous proliferation by iris melanocytes. Arch Ophthalmol 1981;99:1232-8.
3. Haver RP. Pigmented iris and retrocorneal membrane simulating an iris melanoma. Arch Ophthalmol 1967;78:55-7.

Zaynab Sajjadi, Zeynep Baş, Carol L Shields

Ocular Oncology Service, Wills Eye Hospital,
Thomas Jefferson University, Philadelphia, PA, USA

Correspondence to: Dr. Carol L. Shields,
Ocular Oncology Service, 840 Walnut Street,
14th Floor, Philadelphia, PA - 19107, USA.
E-mail: carolshields@gmail.com

Access this article online

Quick Response Code:

Website: www.ijo.in

DOI: 10.4103/ijo.IJO_302_21

Cite this article as: Sajjadi Z, Baş Z, Shields CL. Hyperreflective band on anterior segment optical coherence tomography. Indian J Ophthalmol 2022;70:361.