



ORIGINAL RESEARCH PAPER

Ophthalmology

BILATERAL ANGLE CLOSURE GLAUCOMA IN A TEENAGE GIRL

KEY WORDS: Glaucoma, field of vision, optical coherence tomography

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ABSTRACT Primary angle closure glaucoma (PACG) usually presents as unilateral and has acute onset. To the best of our knowledge, chronic PACG in very young age is rare. We share a case report of a teenage girl with advanced glaucomatous changes and, on gonioscopy, had synechia and closed angle of anterior chamber. She was treated by bilateral laser iridotomy and topical glaucoma medication. As patient had poor control of IOP on medications in right eye , she underwent filtration surgery in right eye. The author concludes that, even at very young age, in the absence of predisposing factors for secondary glaucoma, the patient should be investigated for PACG and managed accordingly.

INTRODUCTION:

Glaucoma is a blinding eye disease with a prevalence of 3.5% in 40 years and older population.[1] The open-angle glaucoma is more common in sub-Saharan African population, while angle closure glaucoma is highly prevalent in the Asian population.[1,2] In a meta-analysis, the prevalence of angle closure glaucoma in 40–49 years of age group was as low as 0.21%.[3] However, a hospital-based study in Central Saudi Arabia found that nearly half of glaucoma cases were primary angle closure glaucoma (PACG). The mean age of patients with PACG was 28.1 ± 8.2 years.[4] The chronic PACG in still younger ages is rare but reported in other parts of the world.[5,6]

Case Report

A 20-year-old girl presented with complaints of blurring of vision without any headache, eye ache, or redness. She was not suffering from any systemic or ocular ailment. Her presenting vision was 20/30 in left and 20/60 in right eye. Vision was not improving by pinhole or refractive correction. Her intraocular pressure (IOP) was measured by applanation tonometer mounted on slit-lamp biomicroscope (Topcon, USA). It was 30 mmHg in both the eyes. On inquiry, she told that her grandfather and paternal uncle were suffering from glaucoma. She was not using any topical or systemic medication for any other ailment.

The anterior segment evaluation did not detect any significant findings in the lid, conjunctiva, or cornea. The anterior chamber was quiet but shallow, lens was normal, and pupils were reacting briskly to light. The central retina and other components of the posterior segment were evaluated using +90D lens (Volks, Germany). The optic disc had cup-disc ratio of 0.7 and 0.6 in the right and left eyes, respectively. The other part of the retina was normal. The digital image of optic disc suggested glaucomatous changes .

The angle of anterior chamber was evaluated using four-mirror gonioscens (Volks, Germany). It revealed appositional closure of the angle of anterior chamber with synechial closure of angle in <90° in both the eyes. The field of vision was investigated by Humphrey automated perimeter. There were marked glaucomatous changes in the field of vision [Figure 1]. The optical coherent tomography (OCT) suggested glaucomatous changes in optic disc and related changes in retinal layers.

After confirmation of clinical diagnosis with investigations, the patient was treated first with brinzolamide/timolol eye drops twice a day in both the eyes. She underwent bilateral laser peripheral iridotomy (VISULAS laser system, Zeiss, Germany) on the next day. The depth of the anterior chamber increased after the procedure and flow of aqueous through iridotomy was noticed. Intraocular pressures were 29 and 21 in the right and left eyes, respectively after PI.

Since patient had poor control of IOP on medications in right eye , she underwent trabeculectomy with Mitomycin-C in right eye after 1 week of PI procedure. Postoperatively, intraocular pressures in right eye came to 15mm Hg and patient had a well formed functional cystic bleb as seen on OCT.(Figure 2)

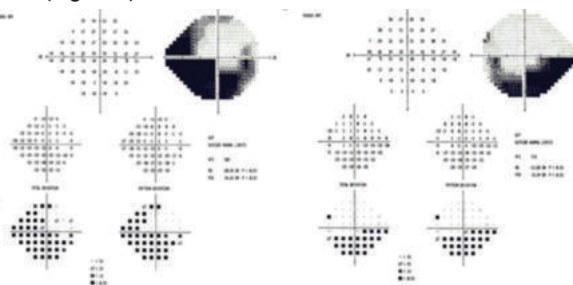


Figure 1: Field of vision testing shows glaucomatous changes in both the eyes.



Figure 2: Post-operative 1 week OCT picture showing well formed cystic functional bleb:H3E1V1S0 (iBAGS grading)

DISCUSSION

A case of chronic PACG at such young age is not only a challenge to diagnose but also to manage as lifelong follow-up, and treatment is needed. In this case, asymptomatic glaucoma resulted in both structural and functional damages in both the eyes. Facilities for investigation within region enabled early diagnosis and prompt management.

Understanding the importance of risk factors helps the glaucoma specialist to suspect glaucoma with unusual presentation. In the present case, female gender and positive family history of glaucoma were present. As suggested by McMonnies,[7] history and demographic information are very helpful and therefore should be part of comprehensive glaucoma case workup. Positive family history is a strong predictor of glaucoma.[8] The use of steroid for ocular condition and systemic ailment is known to cause secondary glaucoma in young age.[9] In our case, the patient was not using any form of steroid and inquiry about it helped us in arriving at the final diagnosis.

A number of interventions are proposed to manage PACG. However, community-based bilateral laser PI was found to be cost-effective approach.[10] It is minimally invasive in early cases as extensive peripheral anterior synechia are yet not developed. Although this could be an initial treatment modality for managing chronic angle-closure glaucoma, these patients would need long-term follow-up, and if the IOP is not controlled, other surgeries would be needed after few years.[11]

CONCLUSION:

In summary, the case of chronic angle-closure glaucoma presenting in very young age with insidious presentation was a lesson to ophthalmologist to undertake comprehensive assessment of cases with risk factors and undertake prompt management. It would be interesting to monitor this case to see if structural changes regress as has been documented in literature.[12]

Statement of Ethics

Study adhered to the tenets of the Declaration of Helsinki. Written Informed consent was obtained from patient for publication of this case report.

Conflicts of Interest

Author have no conflict of interest in this study.

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