

Anterior Staphyloma (Right eye) with Phthisis bulbi (Left eye): A case report

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Abstract

Background Staphyloma is a clinical condition characterized by an ectasia of the outer coats of the eye with an incarceration of the uveal tissue.^[1] Phthisis bulbi is an end-stage clinical condition occurring due to severe eye injury or disease damage which leads to scarring, inflammation, atrophy and finally disorganization of globe and intraocular contents.^[3,4]

Case presentation A 16 years old boy presented in the OPD with protusion of the eyeball (right eye) and shrunken left eye which is present since birth. He had history of trauma to right eye with stick 5 years back following which he complains of further increase in size of the eyeball to attain the present size. His chief complaint was pain in right eye. SLE showed anterior staphyloma (right eye) along with mild congestion, mild blepharitis and pannus. Perception of light was present in right eye. Left eye findings were suggestive of pthisis bulbi with calcification, narrowing of palpebral aperture. The left eye was sightless, sizeless, shapeless and perception of light is negative in left eye.

Conclusion Early identification of ophthalmological problems in infancy & prompt intervention is mandatory for anterior staphyloma. A comprehensive evaluation of the risk factors, control of ocular comorbid conditions, and an early and meticulous surgery can optimize results.

Keywords: Anterior staphyloma; Pthisis Bulbi; Ophthalmological problems; Surgery

1. Introduction

Staphyloma is a clinical condition characterized by an ectasia of the outer coats of the eye with an incarceration of the uveal tissue.^[1] Anterior staphyloma can be caused due to inflammation, trauma/infection or due to developmental abnormality caused by defective anterior mesoderm differentiation.^[1] Staphyloma is classified based on the location as anterior, intercalary, ciliary, equatorial and posterior staphyloma. ^[1] Incidence in Asian population is around 7-9%. ^[2] The term phthisis is derived from Greek word phtheinin which means shrinkage or consuming. ^[3] Zimerman was the first one to state both the terms, atrophy and phthisis bulbi referring to the consecutive stages of degenerative process of a severely damaged eye. ^[3] Phthisis bulbi is an end-stage clinical condition occurring due to severe eye injury or disease damage which leads to scarring, inflammation, atrophy and finally disorganization of globe and intraocular

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contents. [3,4] A 7s rule of phthisis bulbi which refers to soft, shrunken, sightless, shapeless, structureless, squared and sore eye. [3]

2. Case presentation

A 16 years old boy presented with protrusion of the right eyeball and shrunken, sightless, shapeless eyeball of the left side which is present since birth. He had history of trauma to the right eye with stick 5 years back. His chief complaint was pain in right eye.

2.1. On ocular examination

2.2. Right eye

Perception of light was present. Palpebral aperture: vertical- 11mm and horizontal- 26mm. Slit lamp examination showed protrusion of the uvea through a corneal defect suggestive of anterior staphyloma with mild conjunctival congestion, mild blepharitis and pannus (10-11'oclock).

2.3. Left eye

Perception of light was absent. Palpebral aperture: vertical-5mm, horizontal- 24mm. The eye was shrunken, sightless, size less, shapeless, structureless, squared and soft suggestive of phthisis bulbi.



Figure 1 Shows anterior staphyloma (right eye)



Figure 2 Shows phthisis bulbi (left eye)



Figure 3 Shows anterior staphyloma (right eye) with phthisis bulbi (left eye)

Management: Pain was resolved in right eye by giving systemic analgesics given twice daily along with CMC eye ointment 2% 3 times a day was advised which was resolved in one week. Patient was referred to higher centre.

3. Discussion

Staphyloma was first studied via direct observations of enucleated eyes and in vivo by B mode echography by Curtin in 1977.^[1,2] The exact etiological formation of staphyloma is unclear, however there is a theory that is postulated in which local choroidal factors and decreased resistance of the sclera leads to protrusion of the Bruch's membrane resulting in staphylomas.^[1,2] Secondary etiologies are trauma/infections which can disrupt the structure of sclera leading to subsequent scleral thinning leading to development of staphylomas.^[1] Severe staphylomas may result in enlarged and protruding eyeball.^[1] Phthisis bulbi or shrunken eye or end-stage eye commonly caused due to trauma, infection, malignancy, surgery, retinal detachment and vascular lesion.^[3] Pathogenesis of phthisis bulbi includes hypotony, deranged blood ocular barrier and intraocular inflammation. Hypotony causes alteration of oxygenation, nutrition and metabolism, while the breakdown of the ocular blood barrier of the plasma proteins leads to release of cytokines, chemotactic & angiogenetic factors which forms cascade for phthisis bulbi.^[3,4]

Abbreviations

SLE: Slit lamp examination OPD: Out-patient department.

4. Conclusion

Here is a male patient with anterior staphyloma and phthisis bulbi. Currently there is no gold standard treatment for staphyloma. If scleral thinning is observed, then the only treatment option is scleral reinforcement which is still a controversial treatment. For phthisis bulbi the treatment approach mainly aims at alleviating ocular pain and cosmetic rehabilitation of the affected eye. A comprehensive evaluation of the risk factors, control of ocular comorbid conditions, and meticulous surgery can optimize results.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that there is no competing interest

Statement of ethical approval

Ethical approval is taken from the Institutional Ethics Committee.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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