

Glaucoma Facomorficose and Ultrabiomicroscopy

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Abstract

Introduction: Phacomorphic glaucoma is to secondary angle closure due to mature lens that obstructs the angle of drainage leading to an acute elevation of intraocular pressure and glaucomatous optic neuropathy.

Case Presentation: 70 years old male that complains of decreasing VA from 5 years ago that accentuates 3 days ago.

VA OD: Counting fingers, OI: Perception and projection of light; IOP OD: 41 mmHg; OI 12 mmHg; Biomicroscopy OD: Lagophthalmos; Conjunctival hyperemia; Senile arc in cornea; Narrow anterior chamber; Iris expansion of 55 %, Mature cataract; OI: Hyperemic conjunctiva, Opaque cornea, Sutures in vascularized cornea with previous superior conjunctiva, Aphakia.

An ultra bio microscopy was performed in the OD finding with edema cornea, anterior chamber with cellularity, anterior irido crystalline diaphragm displacement and angle closure, we also found anterior rotation of the ciliary body.

Discussion: Ultra bio microscopy is a non invasive test, which can ASSESS in the anterior segment of detail the characteristics and it can also assess the causative mechanism of glaucoma.

Conclusions: Ultra biomicroscopy is a useful tool in the evaluation of these patients because it allows a full assessment of the previous segment structures, even in the presence of opaque media and allows us to determine the ratio of crystalline to adjacent structures and the likely causative mechanism of glaucoma.

Keywords: *Facomorfico; Facomorfico Glaucoma; Lens glaucoma; Lens induced Glaucoma; Treatment; Glaucoma*

Introduction

Cataract maturation is associated with increase in the antero posterior diameter of the lens that in some patients, can lead to pupillary block and peripheral aposition irido trabecular. In other patients with anterior chamber angles previously wide and open cataract, it can edematous both physically can push the iris above, leading to a displacement of the diaphragm irido cristaliniiano [1].

When peripheral aposition irido trabecular occurs, intraocular pressure increases and leads to signs and symptoms of an acute attack of angle-closure glaucoma secondary, this is called acute angle-closure glaucoma facomorfico. Historically, this entity has been called facomorfico glaucoma. The facomorfico angle closure occurs due to secondary angle closure which in turn is caused by obstruction of angle drain by crystalline mature edematous leading to a sharp rise of a potential intraocular pressure and glaucomatous optic neuropathy if not treated.

Improvements in health systems, access to appropriate medical care and the emergence of new modern techniques for the surgical management of cataract, have decreased the incidence of this type of glaucoma, but it is still a problem in developing countries, by poor access to health systems and life expectancy is increasing every time. The facomorfico glaucoma is a rare condition in Western countries,

but has been cited as the cause of 3.9% of cataract extractions done in India. The prevalence and incidence data are scarce. A report by the Nepal Eye Hospital indicated a mean incidence of 0.01%. It is usually unilateral.

Among the risk factors are age, over 60, axial length shortened ≤ 23.7 mm, which increases the risk of glaucoma facomorfico 4.3 times. It has also discussed sex as a risk factor, with a predominance of females, reported as high as 3:1, but this has not been a consistent finding. In a study by K Elgohary, *et al.* [2], an increase in lens thickness and facomorfico glaucoma in patients with anaemia Fanconi2 were found.

The facomorfico glaucoma can occur in both eyes with narrow anterior chamber or anterior chamber depth as the condition is in the enlarged cataract, not iris settings as the primary angle-closure glaucoma. The diagnosis of glaucoma is based facomorfico intraocular pressure of 21 mmHg in the presence of an enlarged cataract together with signs of glaucoma facomorfico as corneal edema, mean pupil dilation, conjunctival injection, and anterior chamber in the central part. Gonioscopy can be performed, but in some cases gives little information due to the presence of corneal edema by elevated intraocular pressure.

The facomorfico glaucoma usually occurs in older patients with short axial length as the mature lens swells and forces the peripheral iris to the trabecular meshwork. The increased intraocular pressure leads to the typical signs and symptoms of acute angle closure. The initial order of facomorfico glaucoma treatment is to lower the intraocular pressure in glaucoma combinations and topical, systemic acetazolamide, intravenous mannitol, iridoplasty argon laser. In angle closure, glaucoma facomorfico persists after laser iridotomy in conjunction with the presence of a crystal which is large for the size of the cataractous eye. All these treatments have proven effective as initial treatments once the intraocular pressure can be controlled by cataract surgery.

The ultrabiomicroscopy ultrasound is a technique that allows high-resolution non-invasive *in vivo* structural details of the anterior segment images and it also provides a detailed description of the anterior segment structures including those that are hidden behind opaque media with their anatomical and pathological relationships. The ultra biomicroscopy intraocular structures may be measured with an axial resolution of 5 to 10 times greater than conventional 10 MHz ultrasound. The probes ultra biomicroscopy handles 35 to 50 Mhz, allowing a smaller depth in the tissue but a better resolution of mismos [3].

Cataract surgery in facomorfico glaucoma has more risks than conventional cataract surgery since the facomorfico glaucoma is in anterior chamber and involves elevated intraocular pressure [4]. These patients also have a positive vitreous pressure and the formation of the anterior chamber during phaco emulsification surgery is difficult, there is also an increased risk of breakdowns in the anterior capsule, corneal decompensation, iris prolapse, and suprachoroidal hemorrhage during cataract surgery. At least 80% after cataract surgery patients require medication anti-glaucoma after surgery [5].

Case Presentation

70 years old male patient who consulted for progressive decrease of visual acuity on the right eye for 5 years and more reduced vision in the same eye for 3 days. The patient had hypertension and present oquerat opatia pseudophakic bullous ophthalmological history 10 years ago in the left eye, with subsequent removal introcular lens in the left eye aphakia time.

Eye exam: Visual acuity without correction OD: counting fingers; OI: Perception and projection of light. PIO OD: 41 mmHg; OI: 12 mmHg. Axial length: 23.16; lens thickness: 5.66; Crystal Index: OD: 2.44 increased.

Fundus both eyes: Novalorable, so a B-mode ultrasound right eye finding a phakic eye, vitreous opacities with minimal, partially detached hyaloid, and applied retina and optic nerve cupping is broad and deep choroid was held.

Biomicroscopy right eye: Lagophthalmos, conjunctival hyperemia, senile arc in cornea, anterior chamber very narrow, expansion of 55%, mature cataract.

Biomicroscopy left eye: hyperemic conjunctiva, cornea opaque, vascularized with stitches in upper conjunctiva, aphakia .

One ultra biomicroscopy with the Paradigm team performed (Paradigm Medical Industries, Salt Lake City, Utah), which has a probe frequency of 50 MHz, finding the right eye corneal edema, central thickness of 521 microns, camera above 1,701 mm, presence of cellularity in the anterior chamber and increased density in crystalline with evidence of displacement of the diaphragm and consequent iridocrystalline angle closure, presence of rotation above the ciliary body.

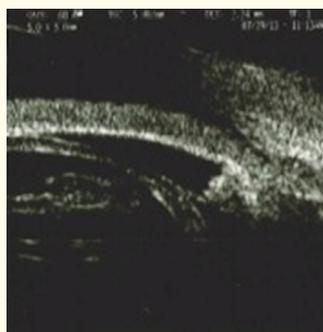


Figure 1:

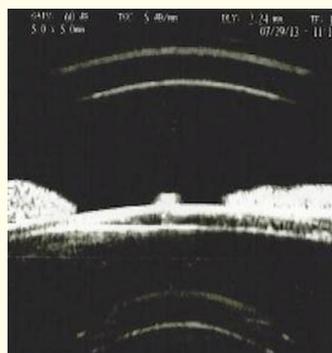


Figure 2:

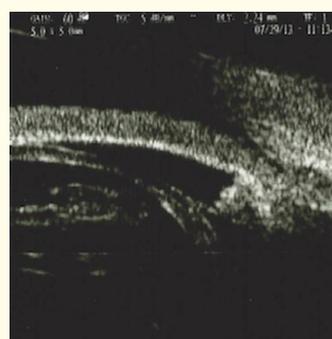


Figure 3:

Discussion

The facomorfico glaucoma is associated with elevated intraocular pressure and corneal edema, so assessment of patients with gonioscopy can give us little information due to media opacity.

The ultra biomicroscopy is a useful tool for the assessment of these patients as it is a little invasive test in which we assess in detail the characteristics of the anterior segment of patients with glaucoma and evaluate facomorfico causative mechanism of glaucoma, in this case would be one irido crystalline diaphragm displacement.

The assessment of patients with suspected glaucoma facomorfico UBM can give us important information about the depth of the anterior chamber, lens status and anticipate possible complications in cataract surgery is the treatment of choice in these patients.

Conclusions

The facomorfico glaucoma results from a secondary angle closure caused by an increase in lens thickness by advanced cataract obstructing angle aqueous outflow leading to a sharp rise of a potential IOP and glaucomatous optic neuropathy if untreated time.

The ultra biomicroscopy is a useful tool in the evaluation of these patients because it allows us a full assessment of the anterior segment structures, join hands opaque media presence and allows us to determine the relationship of the lens to adjacent structures and the probable causative mechanism glaucoma.

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