Late-onset capsular bag distention syndrome after cataract surgery: 2 case-reports

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ABSTRACT

Late capsular bag distension syndrome occurs most of the time with the accumulation of opaque milky fluid behind the IOL, without refractive change, like in one of our cases. The other case that we will describe had an accumulation of a clear fluid behind the IOL with an induced hyperopia. To the best of our knowledge, this is the first published report of capsular bag distension syndrome with a shift towards hyperopia. In both case the visual acuity and the initial refraction was restored after Nd:YAG posterior capsulotomy.

RESUME

Le syndrome de distension tardive du sac capsulaire peut se produire après une phaco-émulsification avec la pose d'un implant intracapsulaire. Le plus souvent il y a une accumulation d'un liquide trouble derrière l'implant, sans changement de la réfraction, comme dans notre premier cas. Le second cas que nous présentons avait une accumulation d'un liquide limpide avec une hypermétropie secondaire. Dans les deux cas l'acuité visuelle a récupéré et la réfraction initiale s'est restaurée après une capsulotomie au laser YAG.

KEY WORDS

Late capsular block syndrome, capsular bag distension syndrome, liquefied aftercataract, secundary hyperopia, Yag laser capsulotomy, lens epithelial cell hyperproliferation

MOTS-CLÉS

Syndrome de blocage capsulaire, syndrome de distension du sac capsulaire, liquéfaction postcataracteuse, hypermétropie secondaire, capsulotomie postérieure au laser Nd: YAG, métaplasie des cellules épithéliales résiduelles de la capsule

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received: 19.06.06
accepted: 10.08.06

INTRODUCTION

Capsular block syndrome, or capsular bag distension syndrome, has been classified according tot the time of onset: intraoperative, early post-operative and late post-operative (4). After YAG capsulotomy, the meniscus of fluid usually disappears and the best corrected visual acuity restores. We describe our experience of late-onset capsular block syndrome with 2 cases.

CASE REPORTS

Case 1

A 81-year-old Caucasian female patient underwent uncomplicated phacoemulsification in her right eye via a corneal incision. A +18 dioptre foldable Storz lens (Type H60M) was inserted in the capsular bag. Four weeks postoperatively, the visual acuity was 7/10 with a +0,5 DS lens. Slit-lamp examination showed a normal cornea, an anterior chamber without flare or cells, and a clear posterior chamber IOL. Fundus examination was normal. The intraocular pressure was 15 mmHg.
Four years later, she presented with decreased visual acuity of 4/10 in the right eye with emmetropic refraction, improving to 8/10 with pinhole. Anterior segment examination showed a quiet pseudophakia with accumulation of a whitish fluid within the capsular bag (Figure 1).

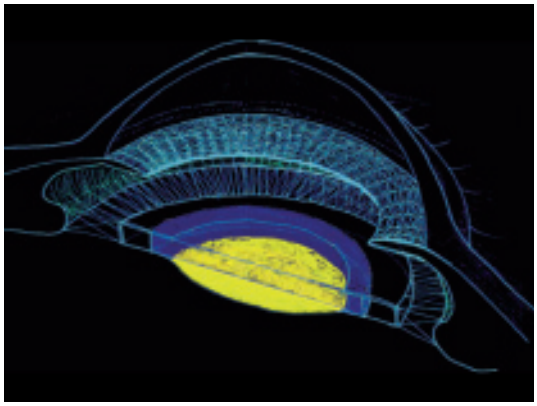

Figure 1. (T. Misotten): Schematic representation of late-onset capsular bag distension syndrome. The distended capsular bag showed an accumulation of opaque fluid behind the IOL. This fluid disappeared after Nd: YAG laser capsulotomy.

The IOL seemed not be displaced anteriorly within the capsular bag. Fundoscopy was normal. A diagnosis of late-onset capsular bag distension syndrome was made. A Nd:YAG laser posterior capsulotomy was performed and the visual acuity improved to 8/10.

Case 2

A 84-year-old Caucasian patient underwent uncomplicated phacoemulsification in his left eye via a corneal incision. A +19 dioptre foldable Storz lens (Type H60M) was inserted in the capsular bag. One month postoperatively, the visual acuity was 8/10 with spectacle correction of -3 DS/ -1 ,0 DC at 90°. The right eye was also pseudophakic with a refraction of -3 DS/ -1.50 DC at 100°. Slit-lamp examination of the left eye showed a normal cornea, an anterior chamber without flare or cells, and a clear posterior chamber IOL.

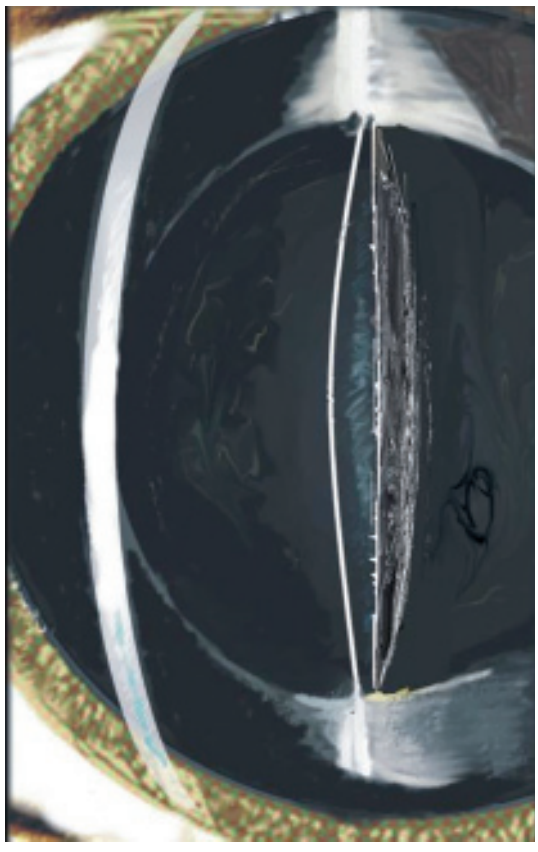

Figure 2. Distension of the capsular bag with accumulation of a transparent fluid behind the IOL.

Fundus examination was normal. The intraocular pressure was 14 mmHg.
He returned five and a half years later complaining that he could not read anymore with his left eye. He had noticed that the visual acuity of the left eye at distance was improved without glasses. Visual acuity of the left eye was 7/10 without correction. He could read Snellen 1.4 with +3. Slitlamp examination of the left eye showed a normal anterior chamber with a distended capsular bag filled with a clear, translucent material (Figure 2). The IOL was well positioned and not displaced posteriorly. Fundus examination was normal and the IOP was 13 mmHg. He underwent a Nd:YAG laser capsulotomy in the left eye, which enabled the fluid to disperse into the vitreous cavity. Immediately afterwards the visual acuity was 7/10 with his previous refraction (-3 DS/ -1 ,0 DC at 90°).

DISCUSSION

Late capsular block syndrome, capsular bag distension syndrome, or liquefied aftercataract is a rare complication after cataract surgery with a continuous curvilinear capsulorhexis. In most reported cases the visual acuity is decreased because of the trouble fluid (5) of the distended capsular bag or a myopic shift (1). This was also the case in our first patient. Our second patient however had a hyperopic shift. Shammas (6) reported in 1995 two cases of hyperopic shift in the early postoperative period. This was because of a posteriorly angulated IOL that occurred after anterior capsular fibrosis, called the capsule contraction syndrome (3). In our second patient however the hyperopic shift occurred after more than 5 years with a well centered non-displaced IOL, without capsular fibrosis, because of clear fluid accumulation inside the capsular bag behind the IOL. Most likely the clear fluid acted as a minus lens meniscus
An explanation of the substance accumulation is that residual epithelial cells undergo metaplasia and proliferate, producing numerous types of collagen and extracellular matrix that accumulate in the capsule. Once these products accumulate, other factors such as osmolarity, fluid "pumping" and other processes may occur (2).

CONCLUSION

Awareness of this syndrome and possibility of hyperopia avoids unacceptable results or mismanagement of the patient.

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