

Spontaneous dislocation of the lens nucleus to the anterior chamber

Deslocamento espontâneo do núcleo do cristalino para câmara anterior

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ABSTRACT

Spontaneous rupture of the anterior lens capsule, evolving with anterior dislocation of the lens nucleus is a rare complication of hypermature cataract. We report a case of a female patient, 79 years old, who presented with spontaneous rupture of the anterior lens capsule with anterior dislocation of the nucleus in the right eye with no history of ocular trauma. The diagnosis was confirmed by the visualization of the tabs of the anterior capsule, especially when the nucleus was removed. We perform phacoemulsification of the nucleus by the risk of decompensating the cornea. It is important to highlight the rarity of the case, the first being reported in Brazil.

Keywords: *Hypermature cataract; Anterior chamber; Nucleus dislocation; Lens, crystalline; Phacoemulsification; Case reports*

RESUMO

Ruptura espontânea da cápsula anterior do cristalino, evoluindo com deslocamento anterior do núcleo é uma complicação rara da catarata hipermadura. Relatamos o caso de uma paciente do sexo feminino, 79 anos, que se apresentou com ruptura espontânea da cápsula anterior do cristalino com deslocamento anterior do núcleo em olho direito sem histórico de trauma ocular. O diagnóstico foi confirmado pela visualização das abas da cápsula anterior, principalmente quando o núcleo foi removido. Realizamos facoemulsificação do núcleo pelo risco de descompensar a córnea. É importante destacar a raridade do caso, sendo o primeiro relatado no Brasil.

Descritores: Catarata hipermadura; Câmara anterior; Deslocamento do núcleo; Cristalino; Facoemulsificação; Relatos de casos

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INTRODUCTION

Hypermature or Morgagnian Cataract is the final process of age-related cataract formation. It occurs when the cortical fibers of the crystalline liquefy allowing the inferior displacement of the nucleus. This condition can lead to various complications, such as crystalline-induced uveitis, facolytic glaucoma and acute facomorphous glaucoma.^(1,2) Spontaneous rupture of the anterior or posterior capsule of the crystalline resulting in anterior or posterior detachment of the nucleus was described as a rare complication of hypermature cataract.

We report a case of a female patient with hypermature cataract presenting spontaneous rupture of the anterior crystalline capsule and displacement of the nucleus to the anterior camera, with no history of ocular trauma. We did not find any reports in the national literature.

CASE REPORT

A 79-year-old woman arrived at our service with severe pain in the right eye for 15 days. She was diagnosed with hypermature cataract and sight without light perception in the right eye since 2006, being accompanied by glaucoma in both eyes, but of irregular form both in the visits and in the adherence of the eye drops. She is pseudophakic in the left eye. She denies history of ocular trauma.

At the examination, she presented visual acuity zero in the right eye and in the left eye 20/20 with correction. Biomicroscopic examination revealed a cornea with discrete edema, anterior chamber flare, rare cells, neovases with a large caliber in the iris, and pupillary mydriasis in the right eye. The crystalline nucleus was displaced to the anterior chamber with ruptured anterior capsule. We could barely see the flaps of the anterior capsule, especially when the nucleus was removed (Figure 1).

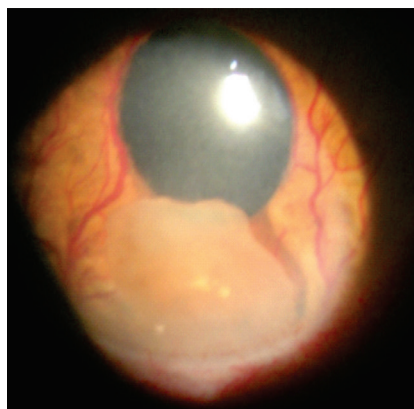


Figure 1: Photography of the anterior segment showing anterior displacement of the nucleus with prominent irian vases.

The posterior segment showed little transparent means, applied retina and total excavation in right eye and left eye, with excavation of 0.8x0.8. Ultrasonography was performed evidencing vitreitis and posterior detachment of the vitreous in right eye (Figure 2). The intraocular pressure was 50 mmHg in the right eye and 15 mmHg in the left eye. We initiated a combination of brimonidine 0.2% and timolol 0.5% every 8 hours, and prednisolone 1% every 6 hours in the right eye with a decrease in intraocular pressure to 32 mmHg in the segment.

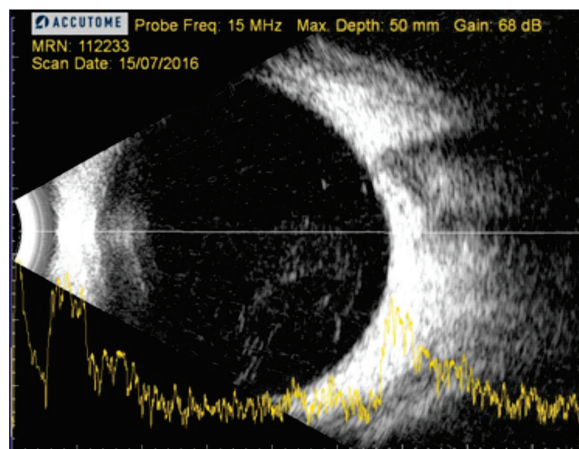


Figure 2: Presence of light vitreitis and displacement of the posterior vitreous.

Surgery was performed to remove the anterior chamber nucleus for the risk of decompensating the cornea and to relieve inflammation and pain. We performed phacoemulsification of the nucleus with low parameters, using enough viscoelastic to minimize damage in the endothelium and structures of the anterior segment. We were careful to lower eye pressure well and not touch the iris to avoid bleeding. The patient is stable, without pain, cornea without edema, anterior camera without inflammatory signs, and in follow-up in the department of glaucoma.

DISCUSSION

Cataract continues to be the leading cause of blindness worldwide, especially in low- and middle-income countries, even with strategies and campaigns to raise public awareness.

Hypermature or Morgagnian cataracts is a form of cortico-nuclear cataract. It occurs by enzymatic degeneration of membrane components and crystalline fibers, producing liquefaction of fibers and reabsorption of cortical fluid. The nucleus is resistant to this process, being fluctuant in the middle of the capsular sac.⁽³⁾ The exit of the lenticular fluid to the anterior chamber can occur by permeability of the capsular lens or by small dehiscences in the anterior capsule.⁽⁴⁾

Spontaneous rupture of the anterior capsule is an uncommon condition, being documented only in isolated cases. A similar case was described in 2012 in which a 52-year-old patient with hypermature cataract in both eyes evolved with bilateral spontaneous rupture of the anterior crystalline capsule. The case was attributed to small dehiscences of the anterior crystalline capsule.⁽¹⁾

Our patient presented spontaneous displacement of the nucleus to the anterior chamber in the right eye. The presence of very evident anterior capsule flaps, especially after removal of the nucleus, as well as the hypermature cataract without ocular trauma, led us to the diagnosis.

The increase in intraocular pressure and uveitis induced by the crystalline nucleus are conditions already described in the literature.⁽⁵⁾ In our case, we removed the anterior chamber nucleus to reduce phlogistic signs and to prevent corneal decompensation.

Spontaneous rupture of the anterior crystalline capsule has also been described in a chronic steroid user following renal transplantation⁽⁶⁾, in a patient with Marshall syndrome^(7,8) and

Alport syndrome.^(9,10) Complete clinical examination is essential when suspecting of systemic diseases.

Due to the vascularization of the iris and altered ocular pressure, we were very careful to avoid complications during surgery. We lowered the ocular pressure with 2 tablets of acetazolamide, and half an hour of weight on the eyeball after conducting anesthetic blockade. We performed a rapid phacoemulsification, but with generous viscoelastic protection of the structures of the anterior chamber and capsular sac, which was intact and resistant to the surgery.

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