

Case report/Prikaz primera

INTRACORNEAL AND SCLERAL CYST FOLLOWING CATARACT EXTRACTION

INTRAKORNEALNA IN SKLERALNA CISTA PO EKSTRAKCIJI KATARAKTE

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Key words: corneal cyst; scleral cyst; cataract extraction

Abstract – Background. A six-year-old boy presented with a large progressive intracorneal and scleral cyst. Two years before, bilateral cataract surgery through a 6.5-mm corneal incision was performed elsewhere.

Methods. The posterior wall of the cyst could be excised, as well as the anterior wall in the sclera. Upon histo-pathology the cyst wall was lined by epithelium. The epithelial cells of the anterior side in the cornea were removed with a curette and a corpus alienum drill. Three and a half years after removal of the cyst, there was no recurrence. Visual acuity was 0.8.

Conclusions. An intracorneal and scleral inclusion cyst was successfully removed by surgical excision and the removal of epithelial cells by a curette and a corpus alienum drill.

Ključne besede: kornealna cista; skleralna cista; odstranitev katarakte

Izvleček – Izhodišča. Šestletni deček je prišel z veliko in napredujočo intrakornealno in skleralno cisto, ki je nastala dve leti po operaciji katarakte skozi 6,5 mm kornealno incizijo.

Metode. Zadnjo steno kornealne ciste in sprednjo steno skleralne ciste je bilo mogoče izrezati. Histopatološka preiskava je pokazala steno ciste, prekrito z epitelijem. Epitelijske celice sprednje strani roženice so bile odstranjene s kireto in svedrom za odstranitev tujkov. Tri in pol leta po odstranitvi se proces ni ponovil. Ostrina vida je bila 0,8.

Zaključki. Epitelijsko in skleralno inkluzijsko cisto je mogoče uspešno odstraniti s kirurško incizijo in odstranitvijo epiteljskih celic s kireto in svedrom za odstranitev roženičnih tujkov.

Introduction

Intracorneal and scleral inclusion cysts following clear-corneal cataract extractions are rare (1-4).

Most intracorneal cysts appear following a trauma. Sometimes it may be seen in a child without a history of injury or inflammation (2). We present a case of six-year-old boy with a progressive intracorneal and scleral cyst following cataract surgery.

Case report

In 1996 a six-year-old boy visited the department of ophthalmology with a progressive intracorneal and scleral cyst in his right eye (Fig. 1). Two years before, bilateral cataract surgery through a 6.5 mm corneal incision was performed elsewhere. Visual acuity was RE 0.3 with S + 12.75 = C - 1.00 × 40°. LE 0.3 with S + 13.25 = C - 2.25 150°.

A clear walled cyst with a height of 4.8 mm extending 3.1 mm from the limbus into the cornea and approximately 3.5 mm onto the scleral side. The cyst was located between one-third to half of the depth in the corneal stroma and appeared to be located more superficially in the sclera, with forward bulging of the anterior scleral layers. The fluid in the cyst was clear. On the scleral side a horizontal fluid level of white debris was present (Fig. 1). The eye was aphakic.

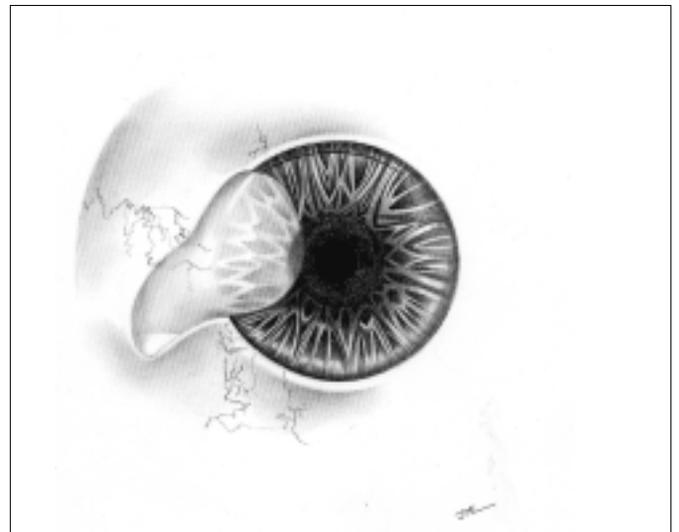


Fig. 1. Clear walled inclusion cyst with white debris at the scleral side.

Sl. 1. Inkluzijska cista s prosojnimi stenami z belkastim debrisom na skleralni strani.

In 1996 a fornix-based conjunctival flap was performed and the sclera around the cyst incised to half - 2/3 depth. From temporal a lamellar excision of the cyst was performed. Unfortunately the cyst ruptured spontaneously. The bottom of the cyst consisted of number of craters with different depths. From temporal, a deep lamellar dissection of the sclera and cornea was performed. The posterior scleral and corneal wall and the anterior wall of the cyst in the sclera were removed with scissors. As it was technically not possible to remove the anterior wall of the cyst in the cornea, the epithelium was scraped with a small chalazion curette and with a drill normally used to remove rust from a cornea. The anterior corneal layer was sutured in place at the limbus with interrupted 10-0 nylon. The sclera underneath the cyst was very thin. Through the sclera the uvea tissue was visible. A tectonic scleral graft was sutured with interrupted 10-0 nylon sutures and was covered with the conjunctival flap. Recovery was uneventful. The cyst did not return (Fig. 2).

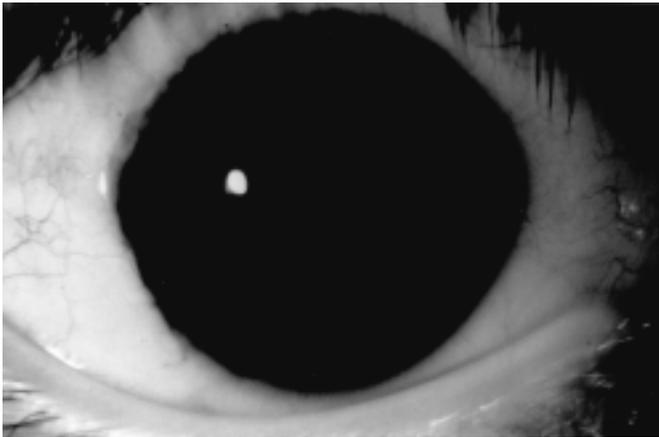


Fig. 2. The right eye one year after removal of the cyst.

Sl. 2. Desno oko po odstranitvi ciste.

Visual acuity RE with contact lens after one year was 0.7. A Yag laser capsulotomy was performed in 1999. In 2000 the visual acuity was 0.8.

Keratometry RE: $42.5\text{ D} \times 180^\circ = 43.5\text{ D} \times 90^\circ$.

Microscopic examination of the cyst showed the cyst wall lined by a layer of corneal epithelium (Fig. 3 and 4).

Discussion

Intracorneal inclusion cysts develop from the implantation and proliferation of epithelial cells into the cornea. Their development is usually slow (2). In our patient epithelial cells could have been introduced into the corneal stroma during surgery. We could not obtain details of the cataract surgery. A temporary gaping of the cataract wound could have been possible. A congenital scleral corneal epithelial cyst is a very rare occurrence (4), if it exists at all. The initial trauma of a traumatic cyst of the cornea might be minor (4), and might have gone unnoticed. A sharp object might introduce epithelial cells into the stroma. Due to closure of the wound the epithelial cells become isolated.

Treatment consists of drainage, surgical excision and cauterising agents and electrocautery to remove or destroy the epithelial cells (1, 2, 4). Drainage procedures usually result in a refilling of the cysts.

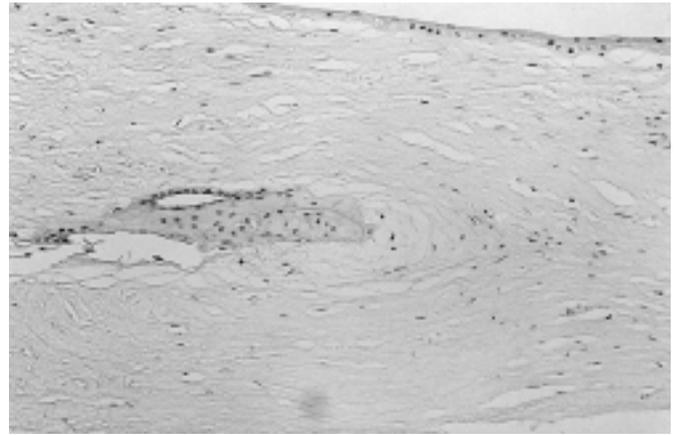


Fig. 3. In the centre of the collagenous stroma small islands of epithelial cells with small cyst formation can be seen. The epithelial islands are surrounded with loose mesenchymal stroma without inflammation (haematoxylin and eosin, 200 \times).

Sl. 3. V sredini kolagenozne strome se lahko vidijo otočki epiteljskih celic z majhnimi cistami. Epiteljski otočki so obkroženi z nežno mezenhimalno stromo brez znakov vnetja (hematoksilin in eozin, 200 \times povečava).

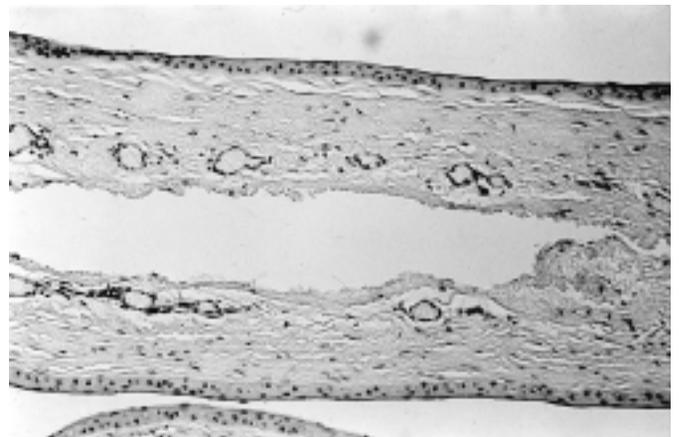


Fig. 4. Both fragments are covered with corneal epithelium and in the collagen rich stroma pathologic ingrowth of multiple small vessels can be seen (haematoxylin and eosin, 200 \times).

Sl. 4. Oba fragmenta sta prekrita z roženičnim epitelijem in v stromi, bogati s kolagenom, je vidno vraščanje številnih majhnih krvnih žil (hematoksilin in eozin, 200 \times povečava).

We scraped the epithelial cells with a small chalazion curette and polished the wall with a drill.

No recurrence was seen over a three-and-a-half year follow-up period.

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