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Recurrent intrascleral cyst after strabismus surgery

Abstract • Background: Intrascle­
ral epithelial inclusion cysts have
been described after ocular trauma,
scleral buckling and strabismus
surgery. They are usually small,
asymptomatic and located anterior­ly.
• Case report: The clinical
history of a 9-year-old girl who de­
developed a huge epi- and retrobulbar
intrascleral cyst in both the upper
and the lower nasal quadrants after
multiple strabismus operations is
described. • Results: Surgical re­
section of the cyst wall was twice
unsuccessful. Drainage of the cyst,
followed by the injection of tetracy­
cline (30 mg/ml) in the cyst site,
led to complete recovery. •  Conclu­
sion: Recurrent poste­
orily located intrascleral cyst can
occur after strabismus surgery.
Therapy consisting of drainage
combined with intrascleral adminis­
tration of tetracycline solution
(30 mg/ml) to induce sclerodesis
appeared to be effective during a 2­
year follow-up period.

Introduction

Epithelial inclusion cysts occasionally develop after
trauma, strabismus surgery or scleral buckling surgery.
After strabismus surgery, they are usually small and have
an anterior episcleral location close to, or even in, an
operated muscle [3, 6, 9]. After scleral buckling surgery
they can some-times develop in the posterior part of the
orbit, and can cause problems due to increasing size [4].
Reports of intrascleral implantation cysts are few in
number and suggest a traumatic aetiology [1, 8].

The case we describe here is the first reported recur­
rent symptomatic extensive intrascleral cyst after strabis­
mus surgery. We suggest a new treatment.

Case report

A 9-year-old girl was referred to our department because of a
painless decrease in visual acuity (VA) in her right eye over a
3-week period. She had a history of repeated strabismus surgery,
performed elsewhere 3, 7 and 8 years previously. The superior,
medial and lateral rectus muscles had been recessed and the inferi­
or oblique muscle partially disinserted. Her VA was normal after
these procedures in both eyes.

On admission, the patient's best corrected VA was 20/100 in
the right and 20/20 in the left eye. External examination showed
mild protrusion (Hertel 17-80-15 mm) and esotropia of the right
eye. An elastic mass was palpated through the lids on the upper
part of the globe between the 9 o'clock and 2 o'clock positions.
Slit-lamp examination of both eyes was normal. Fundus exami­
nation of the diseased eye showed a huge indentation of the upper
quadrants up to the disc, protruding over the macula (Fig. 1). The
left eye was normal. Ultrasonography revealed a well-outlined epi­
and retrobulbar process, connected to the globe, in three quad­
rants, protruding mainly anteriorly, with a maximal antero-poste­
or diameter of 15 mm (Fig. 2). While no internal reflectivity was
observed, this finding was suggestive of a cystic lesion.

Because of the treat to VA, surgical intervention was judged to be
necessary. After puncture of the cyst, clear watery fluid was
drained and the external wall of the cyst was resected as far poste­
orily as possible. One day after surgery a dramatic improvement
of the fundus aspect was observed (Fig. 3), and 4 weeks later VA
had increased to 20/25. Histological examination confirmed the
diagnosis of an intrascleral cyst with a scleral outer surface and an
inner surface lined with nonkeratinised multilayered squamous
epithelium (Fig. 4). Goblet cells were not present in the epitheli­
um. A small amount of scar tissue and inflammatory cell reaction
around remnants of suture material was seen.

Nine months after surgery, the patient was readmitted with the
same complaints and clinical findings as at the initial referral.
Fig. 1 Appearance of the fundus, showing a large indentation of the superior quadrants of the globe.

Fig. 2 Ultrasonography of the right eye. Top and bottom left: B-mode scans obtained with the transducer on the globe, showing a round hypoechoic lesion. Top and bottom right: Immersion B-mode scans showing the strong indentation and the location around the optic nerve. (VC vitreous cavity, O orbital fat, C cyst, ON optic nerve).

Fig. 3 Appearance of the fundus aspect 1 day after the first operation, showing papilloedema and haemorrhages on the disc and the retina.
Recurrence of the cyst was ultrasonographically confirmed. An even more radical excision of the cyst wall was performed. Four months after this operation, however, the cyst reappeared for the third time. We decided on another approach.

After drainage of the cyst, 0.4 ml of a concentrated tetracycline solution (30 mg/ml) was injected between the cyst walls to induce sclerodesis. No further surgery was performed. Four months after this procedure, the VA was restored to normal. Two years later there were no signs of recurrence of the cyst, either clinically or ultrasonographically.

References