positive, diastase-resistant glycocalyx lined the inner epithelium.

Key words: Apocrine, periodic acid Schiff diastase stain, diagnosis of sudoriferous cyst.

Sudoriferous cyst of the orbit of adult origin after trauma

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A rare case of sudoriferous cyst of the orbit occurring in an adult, who had facial trauma, is reported. Several factors suggest its adult onset. The only other case reported in an adult is of presumed childhood origin. Very few congenital cases have been reported. A 65-year-old lady presented with recent onset of left-sided ptosis and a painless mass below the left supraorbital margin. The patient had traumatic ptosis after a road traffic accident 13 years ago. The ptosis was surgically repaired, which resulted in symmetrical palpebral apertures. Computed tomographic scan revealed a well-defined cystic mass in the anterior orbit. The mass was removed in toto by anterior orbitotomy. Histopathological examination revealed a single cyst lined by double-layered cuboidal epithelium in some areas and transitional epithelium at others. A periodic acid Schiff (PAS) positive, diastase-resistant glycocalyx lined the inner epithelium. Apical snouting suggested an apocrine nature. This confirmed a diagnosis of sudoriferous cyst.

Key words: Apocrine, periodic acid Schiff diastase stain, sudoriferous cyst orbit

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Sudoriferous cysts are cysts of sweat gland origin. Sweat glands are found distributed throughout the body in the skin with special concentration in the axillae, nipples, perianal and perigenital areas. They also occur as modified glands in the following areas: eyelids as Moll’s glands, breast as mammary glands and auditory canal as ceruminous glands secreting wax.1 Whereas sudoriferous cysts are common in the lids, their occurrence in the orbit is extremely rare.2-5

Case Report

A 65-year-old lady presented to our hospital in July with a 10-day history of left-sided ptosis and a mass below her left superior orbital rim. There was no history of recent trauma. She had suffered a road traffic accident 13 years ago and the injuries she sustained left her with facial asymmetry, slight enophthalmos, ptosis and diminished vision, all on the left side. She underwent lid repair for traumatic ptosis 7 years ago after which her palpebral apertures were symmetrical. Thereafter, she remained asymptomatic and did not have any ocular complaints, which could necessitate a visit to an ophthalmologist.

The patient had a full ocular examination at our hospital 2 months previously for painless progressive loss of vision on the right. At that time, no ptosis or mass was present. She had bilateral immature senile cataracts. The left eye had a traumatic mydriasis with a 5-mm, non-reactive pupil and a relative afferent pupillary defect. Intraocular pressures were normal. A juxtapamacular scar (found inactive on fluorescein angiography) was present in the right fundus and the left had mild disc pallor.

On her current (July) visit, her best-corrected visual acuities were 20/40 and 7/200, right eye and left eye respectively. She had facial asymmetry, with hollowing of the left temporal area, flattening of left upper cheek, and mild left enophthalmos. There was severe ptosis of the left upper lid. A well-defined swelling, approximately 1.5 cm in diameter was present medially below the left supraorbital margin [Fig. 1A]. It was non-tender, smooth, fluctuant and fairly mobile without any fixation to the overlying skin but fixed at its base. The upper edge of the swelling could not be palpated under the bony margin. On lid eversion, the swelling was above the upper tarsal border. The extra-ocular movements in the left eye were restricted in elevation. The levator muscle action was 14 mm on the right side and 5 mm on the left. Other ocular findings were as before.

Computed tomographic scan of the orbits showed a well-defined, anteriorly situated cystic swelling of 1.8 cm × 1.6 cm × 1 cm size [Fig. 1B] on the left. Ultrasound examination corroborated the cystic nature of the swelling. The patient underwent anterior orbitotomy under local anesthesia and sedation. After opening the orbital septum, a large cyst was removed in toto after dissecting its adhesions to the levator aponeurosis and its fibers [Fig. 1C]. The thinned levator aponeurosis was then attached below the superior tarsal border. Postoperatively, her palpebral apertures were symmetrical [Fig. 1D].

Gross examination showed that the cyst measured 1.6 cm × 1.5 cm × 1 cm [Fig. 1E]. Cut surface revealed a unicocular cyst filled with a clear fluid. The translucent cyst wall was 0.1-0.2 cm thick. Histopathological examination showed a cavity lined by a two-layered cuboidal epithelium

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in many areas and transitional epithelium in others [Fig. 1F]. The surrounding fibrofatty tissue showed congested vessels and sparse mononuclear infiltrate. Periodic acid Schiff (PAS) diastase stain showed a positive apical glycocalyx and diastase-resistant granules. Apical snouting was seen in the inner lining cells suggestive of an apocrine cyst [Fig. 1G]. A diagnosis of sudoriferous cyst was made.

There was no recurrence of cyst formation or ptosis at 1-year postoperative follow-up.

**Discussion**

Orbital cysts/structural lesions account for 5-30% of the lesions in various reported series of orbital tumors. A lucid classification of the differential diagnosis has been proposed. Dermoid cysts are the most frequent and others include cysts of surface epithelium, teratogenous cysts, neural cysts, inflammatory cysts, and secondary cysts from adjacent structures. Acquired cysts include mucoceles, implantation cysts, and lacrimal ductal cysts. Apocrine gland cysts come under the category of simple epithelial cysts. Different cysts have their own characteristic histological features.

Sudoriferous cysts (or hidrocystomas) are cysts of sweat gland origin. Sudoriferous glands are of two varieties based on the method of secretion; in the apocrine variety, the lining cells release the apical part of their cytoplasm, the remainder of the cell being viable. The eccrine-type sustain no loss of cell structure. Sudoriferous cysts arising from the sweat glands of Moll are usually found in the lids and are apocrine in type.

Orbital sudoriferous cysts are extremely rare and only a few have been reported in children. In the only reported adult case, the cyst was presumed to have developed in childhood and grown gradually. Bone remodeling and orbital enlargement suggested the long-standing nature of the lesion. In our case, there was no bone remodeling; the swelling was of recent onset and a lid operation performed earlier elsewhere failed to reveal any cystic lesion. All this indicates that the sudoriferous cyst was probably of adult origin.

It is known that implantation of epithelial cells into deeper tissues at the time of any injury leads to formation of epithelial inclusion cysts. For congenital sudoriferous cysts, it is hypothesized that sequestration at the embryonic stage of epithelial cells destined to form glands of Moll could lead to cyst formation in the orbit. In our patient, there are two possibilities as to probable origin of this cyst: (i) some implantation of epithelial cells occurred during the time of lid surgery, which led to cyst formation much like an inclusion cyst and (ii) some superficial glandular tissue cells were implanted into deeper tissue layers at the time of injury and remained
dormant/resulted in a tiny undetected cyst, which gradually enlarged to noticeable levels over a period of time.

Had this been a conjunctival inclusion cyst, it would have had a lining of stratified columnar epithelium; ductal cysts of lacrimal glandular tissue also have a double layered lining and may have PAS positive material but the characteristic apical snouting would be absent.

More sophisticated tests specific for apocrine cells such as human milk globulin-1 (1.10.F3) monoclonal antibody, cytoplasmic granules containing epidermal growth factor (EGF) and others are not universally available. All previous reports have relied on typical apocrine features seen on hematoxylin and eosin staining.

**Conclusion**

Orbital sudoriferous cysts, though earlier reported to be only of childhood origin, may also be of adult origin. This diagnosis must also be considered when dealing with orbital cysts in adults.

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**Recurrent neovascularization of the disc in sympathetic ophthalmia**

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Sympathetic ophthalmia following parsplana vitrectomy is a well-known complication. We describe here a case of recurrent disc neovascularization in a patient of sympathetic ophthalmia. It promptly responded to steroids initially but later recurred with inflammation.

**Key words:** Methotrexate, neovascularization of the disc, sympathetic ophthalmia, triamcinolone

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Sympathetic ophthalmia (SO) is a well-known cause of chronic granulomatous uveitis. Neovascularization of the disc (NVD) may occur in such chronic uveitis, however, it has not been reported in SO to the best of our knowledge. Neovascularization of the disc in this case was also of a recurrent nature.

**Case Report**

A 25-year-old female patient presented with 2 months history of gradual painless progressive diminution of vision accompanied by floaters in the left eye. She had been treated with systemic and topical steroids with a presumptive diagnosis of panuveitis with disc edema at a primary health care center and was referred. Her history revealed that 8 months earlier she had undergone right eye parsplana lensectomy and vitrectomy (PPL + PPV) with intravitreal antibiotics at a different center, for suspected metastatic endophthalmitis secondary to postpartum abscess. Culture reports were, however, not available. There was no visual improvement following surgery and she had developed phthisical changes.

On examination best corrected visual acuity (BCVA) was no light perception in right eye while left eye had counting fingers (CF) close to face with accurate light projection. In the left eye apart from fine keratic precipitates, a 3+ cellular reaction was noted in both the anterior chamber (AC) and vitreous. Lens and intraocular pressure were normal. Fundus examination showed the presence of hyperemic disc with blurred disc margins and tortuous dilated vessels [Fig. 1A]. It was associated with serous retinal detachment with shifting fluid. Fundus fluorescein angiography (FFA) showed multiple tiny pinhead-sized hyperfluorescent spots in the superior half of the retina [Fig. 1C and D] with an inferior serous retinal detachment. Late phase showed disc hyperfluorescence with blurring of margins [Fig. 1B]. Systemic examination was normal which included hearing tests and dermatological examination. A clinical diagnosis of SO was made and intravenous pulse steroids (Dexamethasone 100 mg in 150 ml of 5% dextrose) for three days along with topical steroids and cycloplegics were started. Visual acuity improved to 13/200 on day four. Patient was continued on once daily oral steroids at 1 mg/kg body weight. However, 2 weeks after therapy patient started to develop side-effects to steroids and hence methotrexate 15 mg/week and folic acid 5 mg were added while steroid dose was reduced gradually by 10 mg/week.