
Laterally located scleral dermoid in a cat: Case report

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Abstract

A 4-month old Scottish Fold female kitten is referred for consultation from another clinic in Iasi for an abnormal presence of hair in the right eye. During ophthalmic consultation, we could observe the long hairs extending onto the corneal surface, rising from the bulbar conjunctiva from the outer lateral corner of the right eye. All the diagnostic steps of an ophthalmic examination were followed, and surgical treatment followed shortly after, as the best option. Three weeks after surgery, the kitten is recovering well, with her right eye fully functional. The aim of this case report is to present this rather rare ocular pathology to fellow practitioners and offer an overview of literature.

Keywords: *dermoid, kitten, scleral, treatment*

Introduction

A dermoid is a benign congenital mass of ectodermal and mesodermal origin, usually affecting the lateral limbal region, but it can also involve the cornea, sclera, conjunctiva, eyelid or nictitans.¹ Arrest or inclusions of epidermal and connective tissue (i.e., surface ectoderm and neural crest) may occur during closure of the fetal clefts. Abnormal invagination of ectodermal tissue later in gestation may result in a pocket of well-differentiated dermal tissue. Limbal dermoids represent *choristomas* (i.e., mass formed by tissue not normally found at this site).² Frequently, the presence of a dermoid is not appreciated until long, coarse hair extends from the surface causes irritation. Histopathologically, the tumor resembles normal skin, and excision is curative.³

The composition of a dermoid can vary and may include epidermis, dermis, fat, sebaceous glandular tissue, hair follicles and hair.^{4,5} Ocular dermoids have been reported in multiple species, including cats,⁶ dogs,⁷ horses,⁸ cows,⁹ pigs,¹⁰ rabbits¹¹ and guinea pigs.¹²

Overall, ocular dermoids occur infrequently in cats.¹³ Symptoms may include irritation, epiphora, keratitis and ulceration of the cornea⁴.

Material and method

The 4-month old female kitten was presented for consultation to the Ophthalmology service at Pet's Land Veterinary Clinic, Iasi for hair in the right eye.

The ocular exam was normal. Vision was intact and pupillary light reflexes normal. Both pupils had the same size. When opening the right eye for better visualization, a slightly risen mass was seen, located on the lateral sclera. The clinical presentation of the lesion, with long hairs extending from the margin of the mass, was consistent with a dermoid. No other ocular signs of pain were seen (miosis, uveitis, any iridal color change, etc.). The fluorescein dye test was negative, meaning that the corneal epithelium was intact.

Surgical treatment was discussed with the owner. Meanwhile, before surgery, a topical hyaluronic acid ointment was applied for a couple of days to the surface of the eye, to prevent any corneal damage by the hairs. The owner wished the mass be surgically removed, knowing that prior to our consultation, the kitten was treated temporarily by plucking the hair (with obvious regrowth from the dermoid).

Results and discussions

Prior to the surgery, the kitten underwent fasting for 8 hours.

The anesthetic protocol was comprised by a combination of medetomidine, butorphanol and ketamine, administered i.m. The kitten was placed in lateral recumbency, with the affected eye exposed. (fig. 1)

The surgical site was prepared by minimal shaving of the hair in the lateral canthus. The eye and skin around the eye were surgically disinfected with 1% diluted betadine solution and sterily draped. Topical locally anesthetic was instilled in the eye (benoxicaine). The lateral canthotomy was performed with the aid of a no.15 blade and a scalpel, in order to increase the size of the palpebral fissure and to offer the surgeon a better exposure of the mass. The skin bleeding was controlled with diluted adrenaline solution. The two sides of the canthotomy were kept open with stay sutures (polyglycolic acid 2/0). (fig. 2)

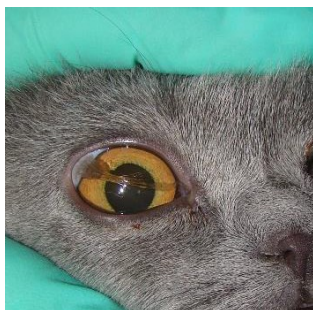


Fig. 1 – Clinical aspect before surgery

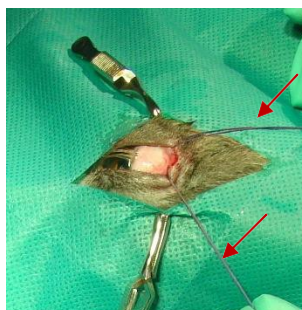


Fig. 2 – Stay wires in place (red arrows), following canthotomy

The surgical excision of the dermoid hairy mass was done in two steps. First of all, the bulbar conjunctiva was incised with a no.15 blade and scalpel, all around the lesion, from one corner to another (fig. 3). Because the dermoid involved only the sclera, the cornea was left intact and the incision was begun and finished at the limbus. The dissection of the abnormal tissue was done using Westcott tenotomy scissors, in a non-penetrating manner (*en bloc*), dissecting only the bulbar conjunctiva and a Bishop-Harmon forceps, used for grasping the dermoid tissue (fig. 4, 5). The hemostasis was done with the diluted adrenaline solution and sterile cotton tips. Once the dermoid was excised, the remaining bulbar conjunctival defect was sutured with 5-0 polydioxanone, in a continuous pattern (fig. 6).

The stay sutures were removed, and the lateral canthotomy was closed with 4-0 nylon in an interrupted pattern, making sure the alignment of the eyelid margins was impeccable, so that a post-operative defect was avoided.

Medical treatment was continued post-operatively, with meloxicam oral solution for 2 days. Antibiotic ointment was prescribed locally, to be applied in the eye and also on the skin suture at the lateral canthus. The kitten recuperated well after surgery.

The canthotomy sutures were removed in 10 days. At that time, mild conjunctivitis was noted at the site of the bulbar conjunctival suture (fig. 7). The antibiotic and the hyaluronic acid ointment were continued. The kitten went on to recuperate for another 16 days after surgery, until the owner came back with the kitten and we noted the absence of any distress signs (fig. 8). Both eyes were opened symmetrically.



Fig. 3 – *Dissection of the bulbar conjunctiva*



Fig. 4 – *Intraoperative aspect*



Fig. 5 – *En bloc removal of the dermoid*



Fig. 6 – *Polydioxanone suture of the conjunctival defect*



Fig. 7 – *Clinical aspect
10 days after surgery*



Fig. 8 – *Clinical aspect
27 days after surgery*

Conclusions

1. An ocular dermoid that contains hairs can lead to chronic irritation, with no long-term or curative results through temporary plucking of the hairs.
2. An ocular dermoid is recommended to be surgically removed.
3. Experience with microsurgical techniques is required.

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4. A thorough ophthalmic examination is required prior to the surgery.
 5. The local treatment of the eye will always be adjusted to the clinical evolution.

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