OCULAR DERMOID IN A DOG AND ITS SURGICAL CORRECTION

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One German shepherd dog was presented with complaint of abnormal hair growth on cornea of its right eye and there was chronic epiphora and blepharospasm. The case was diagnosed as dermoid and advised for surgical correction. Under general anaesthesia the abnormal mass was resected and membranoplasty followed by tarsorrhaphy were done. On the 10th post-operative day sutures over the eyelids were removed and the dogs had an uneventful recovery with normal vision.

Keywords: Dermoid, Dog, Surgical intervention.

Dermoid is a choristoma which is a histologically normal tissue in an abnormal location (Martin, 2005) and choristomas are benign congenital over growths of heterotopic cutaneous tissue in an inappropriate place (Cook, 2007). Occular dermoids are composed of dermis like connective tissue containing skin, hair follicles, blood vessels, nerves, smooth muscles, fibrous tissue, sebaceous and sweat glands, adipose tissue, covered by keratinised stratified squamous epithelium (Brudenall *et al.,* 2007). It has been observed in several domestic animals, including dogs, cats, horses, cattle, sheep, guinea pigs, rabbits, birds and also in wild animals like wild beest (Erdikman *et al.*, 2012). Among dogs the more predisposition breed to ocular dermoids are German shepherds (GSD), Saint Bernard (SB), Golden retriever and Dachshund (Brudenall *et al*., 2007). The ocular dermoids may affect the eyelids, conjunctiva (bulbar and palpebral), nictitating membrane or cornea or may be seen as an inclusion cyst within the orbit (Wappler *et al.*, 2002). Lee *et al.* (2005) observed that due to direction of hairs towards eye there was chronic irritation resulting epiphora, blepharospasm and keratitis. It is commonly believed that, ocular dermoid is generally congenital, but not hereditary (Lee *et al*., 2005).

Case History and Observations

A one year old German shepherd dog was presented to Department of Surgery and Radiology with complaint of abnormal hair growth in its right eye. The patient had suffered from chronic epiphora, ocular discharge and blepharospasm. On ophthalmic examination, right eye revealed presence of longer and thickened hair tuff against cornea (Fig.1). The case was diagnosed as ocular dermoid and advised for surgical correction.

Fig. 1. Long hairs protruding from corneal dermoid

Treatment

The dog was kept 24 hours fasting and then sedated using Xylazine hydrochloride @ 1 mg/kg body weight and Ketamine hydrochloride @ 5 mg/kg body weight in cocktail mixture intramuscularlyafter the admiistration of pre anesthethic atropine sulphate @ 0.04 mg/kg body weight (I/M). Normal saline solution (NSS) administration was maintained throughout the operation to give additional amount of Ketamine hydrochloride when needed. The patient head was placed on the operation table with the affected eye uppermost and the head was positioned for the surgeon to operate with ease. Stay sutures were placed in the bulbar conjunctiva for fixation of the globe. Then the hairy abnormal tissue was resected by superficial keratectomy and the excised tissue was sent for histopathological study. Eye drops containing tobramycin were instilled and then membranoplasty followed by tarsorrhaphy were done (Fig. 2 and 3). Post-operatively antibiotic ceftriaxone @ 10 mg/kg body weight for 5 days and meloxicam @ 0.2 mg/kg body weight for 3 days were administered, I/M. Eye drop was continued four times daily for 10 days through the gap between the sutures on eyelids. The eye was protected from damage by placing an Elizabethan collar over neck and covering cloths over the paw. On the 10th post-operative day sutures over the eyelids were removed.

Fig. 2. Excision of the dermoid and membranoplasty Fig. 3. Tarsorrhaphy after membranoplasty

Results and Discussion

The dog had an uneventful recovery with normal vision (Fig.4). In the present case the dermoid was at limbus region and was unilateral in origin similar to the findings of Martin (2005) where the most common site of corneal dermoid in the dogs was at the temporal canthus and most of them were unilateral. Ocular dermoids are best treated by surgical excision (Keratectomy and/or conjunctivectomy) and superficial keratectomy is preferred where cornea is involved as also reported by Slatter and Dietrich (2003). Cases where corneal defect is larger than 25% of the corneal surface bulbar pedicle graft is adopted where as cases with defects less than 25% of the cornea are treated with tarsorraphy as also mentioned by Erdikmen *et al*. (2012). In the present case there was slight injury during removal of the abnormal tissue and the dermoid was less than 25% of the corneal surface. So membranoplasty followed by tarsorrhaphy was preferred for quick healing. Histopathology of the excised mass revealed numerous, large, well-developed hair follicles and other adnexal structures. In some areas moderately hyperplastic, keratinized stratified squamous epithelium overlying a thick collagenous stroma (Fig.5) were observed.

Fig. 4. Complete healing after 10 days

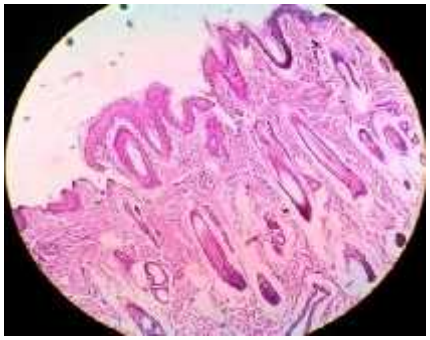

Fig. 5. Photomicrograph of dermoid showing numerous, large, well-developed hair follicles and other adnexal structures (HE 10x)

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