

## **SURGICAL CORRECTION OF BILATERAL OCULAR DERMOID IN A SAHIWAL MALE CALF**

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**Abstract:** A one day old sahiwal male cow calf was brought to the Department of Veterinary Surgery and Radiology with a history of abnormal skin like haired mass on both the eyes since birth. It was diagnosed as congenital bilateral corneoconjunctival dermoid based on history and clinical examination. The animal was restrained in lateral recumbency and auriculopalpebral nerve block was done using 2% lignocaine hydrochloride. Both the dermoids were removed from the underlying tissue by superficial flap resection and simple interrupted sutures were applied using 6-0 chromic catgut. Postoperatively, Inj. Intacef 1g for 5 days and Inj. Meloxicam 2 ml IM for 3 days were administered alongwith dressing of the operative site with betadine. Oflox-D eye drops were instilled 5 drops thrice daily for 5 days. The calf showed uneventful recovery and was re-examined after two months did not reveal any recurrence of dermoid.

**Keywords:** Bilateral corneoconjunctival dermoid, Superficial flap resection, Sahiwal calf.

### **Introduction**

Ocular dermoids are rare in cattle, with prevalence estimated between 0.02% and 0.4% (Yeruham *et al.*, 2002). Ocular dermoid is a congenital defect recognized in animals characterized by skin-like appendage that are histologically normal but misplaced to an abnormal location, usually arising on the lateral canthus, medial canthus, limbus, third eyelid, conjunctivae and cornea (Ismail, 1994). It can be unilateral or bilateral, associated with other ocular manifestations. It may be solitary or multiple, firm to fluctuant, well circumscribed, smooth, and round and usually the overlaying skin is normal. Dermoid are formed due to defective epidermal closure along embryonic fissures, which isolates an island of ectoderm in the dermis or subcutis and usually contains hair, keratin, and sebum, and these materials may produce progressive enlargement of the structure so that it becomes clinically apparent (Edwards, 2002). Histologically, dermoid are lined with stratified epithelium resembling normal skin with adnexa and filled with keratinous material (Munoz *et al.*, 2007). Hair from the lesion is predominantly responsible for irritation resulting in inflammation of the conjunctiva and cornea (Gellat, 1981) and may cause visual impairment. Dermoid are usually

corrected surgically as they cause interference with vision. This paper presents successful surgical correction of congenital bilateral corneoconjunctival dermoid in a sahiwal male calf.

### **Case history**

A one day old sahiwal male cow calf was brought to the Department of Veterinary Surgery and Radiology with a history of abnormal haired mass on both the eyes since birth. On clinical examination it was found that large fleshy mass was attached to the cornea and sclera with large number of hairs arising from the surface (fig. 1). The calf was unable to close both the eyes normally. Blepharospasm was frequently observed as the hairs on the dermoid were irritating the cornea and watery discharge of both the eyes. However blinking, consensual and photomotor papillary reflexes were intact. The animal had normal feeding habits. Temperature, pulse and respiration were in the normal range. The animal was carefully examined and based on the clinical findings and history it was diagnosed that calf had congenital bilateral ocular malformation of corneoconjunctival dermoid.

### **Treatment**

The calf was prepared for surgical excision of dermoids. Both the eyes was prepared for aseptic surgery by shaving, scrubbing and application of mild antiseptic solution. The animal was restrained in lateral recumbency. Auriculopalpebral nerve block was done by using 5 ml of 2% lignocaine hydrochloride to achieve akinesis of eyelids and sensory innervations of eye lids were blocked by linear infiltration above the margins of the eyelid using 2% lignocaine hydrochloride. Both the dermoids were removed from the underlying tissue by superficial flap resection. The dermoids were carefully dissected from the underlying cornea to avoid injury to the anterior chamber of eye. The surgical wound was closed by simple interrupted sutures using with 6-0 chromic catgut. Postoperatively, a course of antibiotic (Inj. Intacef 1g) for 5 days and Inj. Meloxicam 2 ml IM for 3 days were administered along with antiseptic wound dressing of the operative site with betadine. Oflox-D eye drops were instilled 5 drops thrice daily for 5 days. The calf showed uneventful recovery after 10<sup>th</sup> day of surgery. The calf was re-examined after two month for any recurrence but did not show any recurrence of dermoid after two months of re-examination.

### **Discussion**

Ocular dermoid occurred rarely in newborn calves. Seldom has it associated with other congenital eye defects like corneal opacity, which have been described in Holsteins as recessive condition. Yeruham *et al.*, (2002) reported corneal dermoid, corneoscleral dermoid, corneoconjunctival dermoid and conjunctival dermoid are the forms of ocular dermoid in

dairy cattle herds. Being congenital anomaly, dermoid occurs sporadically in numerous cattle breeds and can be unilateral or bilateral (Williams and Gellat, 1981). It is believed to a heritable autosomal recessive, polygenic trait and their occurrence are recommended to be duly noted in breeding herds and affected animals should be treated. The dermoid may contain many elements of normal skin such as epidermis, dermis, fat, sebaceous glands, hair follicles and frequently hair. These tissues or hair follicles usually irritate the eye and the animal suffers from chronic epiphora, conjunctivitis or keratitis (Pandey *et al.*, 2011) and may cause visual impairment. As the growth in the case did not invaded the eye ball the functional disturbances associated with vision were not observed. Dermoids involving central cornea, third eyelid, canthus and eyelid occasionally occur in cattle and are corrected easily by surgery. Histopathology, the corneal lesion exhibited a moderately well delineated but nonencapsulated raised mass comprised of moderately hyperplastic, keratinizing stratified squamous epithelium overlying a thick collagenous stroma, which merged with conjunctival tissue containing submucosal glandular tissue. The corneal mass contained numerous, large, well-developed hair follicles and adnexal structures superficially. A band of abortive hair follicles and adnexa was identified as haphazardly arranged clusters of epithelium, in the absence of hair bulbs, intermingled with tortuous lumina of apocrine glands beneath the productive follicles (Kilic *et al.*, 2012). Similar histopathology findings were also found in the present case. Ocular dermoids have been reported and corrected surgically earlier in bovines (Shiju *et al.*, 2010) and many other farm animals (Ismail, 1994). In the present case, dermoids were removed from the underlying tissue by superficial flap resection. The calf showed uneventful recovery. The calf was re-examined after two month for any recurrence and did not show any recurrence of dermoid after two months of re-examination.

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**Fig.1. Ocular dermoid in a Sahiwal calf**