

*Case Report*

**OCULAR SQUAMOUS CELL CARCINOMA IN A CROSSBRED COW:  
A CASE REPORT**

**Deepesh Gautam<sup>\*1</sup>, Dushyant yadav<sup>1</sup>, Zahoor War<sup>1</sup>, A.M. Pawde<sup>2</sup> and A.K. Sharma<sup>3</sup>**

<sup>1</sup>Ph.D. scholars at IVRI, Izatnagar, Bareilly, U.P, 243122

<sup>2</sup>Principal Scientist at Division of Surgery, IVRI, Izatnagar, Bareilly, 243122

<sup>3</sup>Principal Scientist at Division of Pathology, IVRI, Izatnagar, Bareilly, 243122

E-mail: gautamdeepesh87@gmail.com (\**Corresponding Author*)

**Abstract:** A 7.5 year old Crossbred cow was presented at Referral Veterinary Polyclinic IVRI, with the history of lagophthalmos and occasional bleeding from right eye. On thorough clinical and physical examination, a cauliflower like conjunctival growth adjacent to lateral canthus of right eye was observed. The growth was resected under lignocaine hydrochloride (2%) via peterson's nerve block. Resected mass was histopathologically confirmed as squamous cell carcinoma.

**Keywords:** Cow, Conjunctival Growth, Nerve Block, Squamous Cell Carcinoma.

### **Introduction**

Squamous cell carcinoma is a cancer of epithelial cells. Squamous cell carcinoma is the most commonly occurring neoplasm afflicting the bovine eye (Fazili *et al.*, 2001). When it occurs in conjunctiva it is either limbal or less often truly conjunctival. The most common tumor sites were the lateral (66.7%) and medial (16.5%) corneoscleral junctions (Russel *et al.*, 1976). Distribution of Bovine ocular cell carcinomas between right (40%) and left (37.5%) eyes was approximately equal, while in 21.9% of cows with neoplasms, both eyes were affected (M.J. Gharagozlou *et al.* 2007). The carcinoma is commonly erythematous, ulcerated, friable and foul smelling. Squamous cell carcinoma of the conjunctiva is an extreme form of a spectrum of conditions, collectively known as '*ocular surface epithelial dysplasias*', which range in severity from mild dysplasia to carcinoma *in situ* and ultimately to invasive carcinoma (Newton, 1996). Nearly all breeds are susceptible, however, Hereford cattle are most often and occasionally in Holstein-Friesians but rarely in other breeds. Exposure to ultraviolet light from the sun is a possible contributing factor while increased incidence is associated with increased annual hours of sunshine, increased altitude and decreased latitude (Anderson and Skinner, 1961). The average age of cattle with ocular squamous cell carcinoma is 8 years (Cordy, 1990). Growths on the clear part of the eyeball

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(cornea) are less prone to spread to other parts of the body (metastasize) than tumors on the white part of the eyeball (sclera) (Perino *et al.* 1993). The present report is a case of scleral conjunctival squamous cell carcinoma in a crossbred cow.

### **Case history and observation**

A 7 and half year old crossbred cow was presented at Referral Veterinary Polyclinic IVRI, Bareilly. The owner reported that, the animal have had the lesion at right eye which evolved slowly, over the last six months. There was a watery discharge from the affected eye since two months which bleed occasionally, otherwise animal was active and have normal feeding and milking behavior. The animal was treated with parenteral administration of antibiotics and topical eye drop since last 1 month but no significant improvement was noticed. Clinical observation revealed the hard, non-movable cauliflower like growth near the lateral canthus at scleral conjunctiva of right eye (Fig. 1). Animal had normal vision and the physiological values were within the normal range. Blood parameters and serum biochemical values were within the normal range. It was decided to remove the growth surgically for immediate relief of the patient.

### **Treatment and Discussion**

Animal was operated in standing position while restrained in the trevis itself. The operative area was prepared for aseptic surgery as per the standard protocol. The eye was desensitized by regional anaesthesia which was achieved by Peterson's nerve block by using 3 ml of 2% lignocaine hydrochloride. The ocular outgrowth was excised after ligating its base with Vicryl 3-0. Bleeding was controlled by gently rolling the adrenalin soaked ear buds over the excised surface. Eye was lavaged with normal saline solution. Post operatively, parenteral antibiotics Enrofloxacin @ 3 mg/ kg for 5 days and Meloxicam @ 0.5 mg/kg body was administered for 4 days. Eye drop ciprofloxacin was instilled for 15 consecutive days (four times a day). Animal was recovered uneventfully within 15 days without any complication reported till three months after operation.

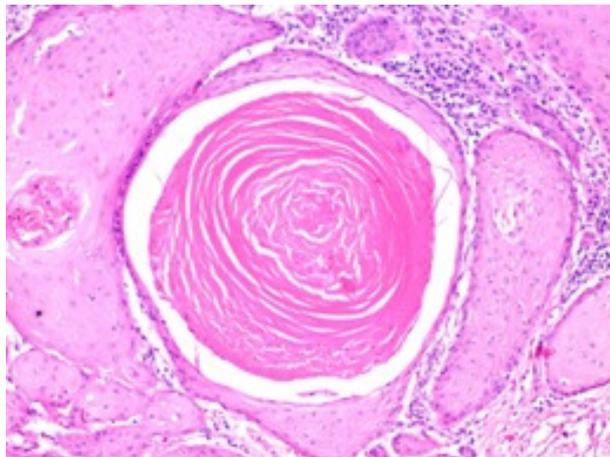
Excised tissue was sent for histopathological examination which shows that classical epithelial pearls cell /cell nest (Fig. 2) and high mitotic figures confirming squamous cell carcinoma or 'cancer eye'. Ocular Squamous Cell Carcinoma or "cancer eye" is the most common malignant neoplasm of epithelial origin affecting cattle and is responsible for significant economic losses (Pugliese *et al.*, 2014). Around 30 per cent of the benign tumors regress spontaneously and squamous cell carcinomas may arise *ab initio* without progressing precursor lesion (Kainer, 1984).

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**Fig. 1:** Cauliflower like growth at right eye



**Fig. 2:** Typical epithelial pearl/ cell nest