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Praveen V
M.V.Sc., Department of Animal
Physiology, Animal Husbandry
Department, Tirupattur, Tamil
Nadu, India

Manojkumar V
M.V.Sc., Department of Animal
Nutrition, Hatsun, Tiruppur,
Tamil Nadu, India

Thirumurugan P
Fourth Year B.V.Sc & A.H,
Madras Veterinary College,
Chennai, Tamil Nadu, India

Ocular squamous cell carcinoma in Holstein Friesian crossbred cattle

Praveen V, Manojkumar V and Thirumurugan P

Abstract

A crossbred Holstein Friesian cow of two years was presented with the history of lagophthalmos and occasional watery discharge from the right eye for the past two weeks. On examination, there was cauliflower like growth near the third eyelid and near the lower eyelid margin. Under local anaesthesia of 2% lignocaine hydrochloride using Peterson nerve block, the mass was resected successfully.

Keywords: Lagophthalmos, cauliflower, lignocaine, Peterson

Introduction

Ocular squamous cell carcinoma is the most common malignant tumour of epithelial cells in cattle [4]. The cause is multifactorial which includes genetic heritability, Ocular pigmentation and Sunlight exposure. It occurs in different places such as palpebral skin, epithelial surfaces of the cornea and conjunctiva, third eyelid and limbus [2]. Bos taurus cattle is most frequently affected than Bos indicus cattle, specifically on unpigmented cattle face [5]. The nature of tumour is erythematous, ulcerated, friable and foul smelling [3]. Sunlight exposure contains ultraviolet rays is the factor increases the incidence with increased hours of sunshine, increased height and decreased latitude [1].

Case history and Observation

A two-year-old Holstein Friesian crossbred cow with the history of lagophthalmos and watery discharge from the right eye for the past weeks. The animal can't able to close the eyes and suffered with the pain. Feeding of the cow also got reduced due to this. On clinical examination, hard and immovable cauliflower like growth was present near the third eyelid and the margin of the lower eyelid leads to the watery discharge and lagophthalmos of the right eye (Fig. 1). The carcinoma was diagnosed based on the typical clinical appearance of the mass present in the eye. It was decided to excise the tumour mass for the immediate relief of the bovine.



Fig 1: Cauliflower like mass

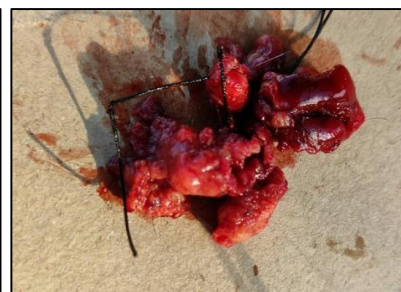


Fig. 2 (Excised tumour mass)

Treatment and Discussion

The surgical procedure was carried out in standing position by restraining in a Trevis. Aseptically the eye was prepared for surgical protocol. The affected eye was desensitized using Peterson nerve block achieved using 2% Lignocaine hydrochloride. The stay suture using silk was applied on the ocular tumour growth. It was pulled with the help of suture material, artery forceps kept at the base of the tumour and it was excised by using BP blade (Fig. 2).

Corresponding Author:
Praveen V
M.V.Sc., Department of Animal
Physiology, Animal Husbandry
Department, Tirupattur, Tamil
Nadu, India

Bleeding was arrested by soaking cotton with Botroclot over the excised surface. Finally, eye was lavaged with normal saline and metronidazole (Fig. 3).



Fig 3: (After tumour excision)

Post operatively, parenteral antibiotics such as Amoxicillin with clavulanic acid, meloxicam and Chlorpheniramine maleate administered for five days. Gatifloxacin eye drops was instilled continuously for 15 days (four times a day). The cow was recovered uneventfully within two weeks without any complications reported until three months after operation. Recurrence of about 40-50% can be expected by this method. The prognosis is good without any further complications, if the tumour is detected at early stage.

Conclusion

Hence, Ocular Squamous cell carcinoma is uneventfully excised for immediate relief of the affected animal. It also done by Cryosurgery using liquid nitrogen. The etiology was multifactorial that includes genetic, phenotypic and also environmental cause [2]. Since the tumour was also due to hereditary cause, it was suggested to cull the squamous cell carcinoma affected bull for further inheritance.

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