

Case Report

BOVINE TEAT PAPPILOMATOSIS: A CASE REPORT

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Abstract: Bovine Teat Papillomatosis is a viral disease manifested with benign growths on udder and teats in cattle. A two year old female Holstein Friesian cross bred heifer was presented with signs of flat, round shaped, dome shaped and filliform type cutaneous warts of different size on all teats. Based on the clinical lesion, the case was diagnosed as bovine teat papillomatosis. Autohemotherapy in combination with Levamisole was applied to treat the animal where injections were repeated once in a week for four weeks. The treatment was efficient to greater extent to cure the disease.

Keywords: Bovine-papilloma, Autohemotherapy, Levamisole.

Introduction

In cattle, bovine papilloma virus (BPV) is the etiological agent of cutaneous and teat papillomatosis, cancers of the upper gastrointestinal tract and urinary bladder (Borzacchiello *et al.*, 2008). Papilloma viruses are small (52–55 nm), non-enveloped, double-stranded DNA oncoviruses that replicate in the nucleus of squamous epithelial cells and can induce warts in the skin and mucosal epithelia of most higher vertebrate species (De Villiers *et al.*, 2004). Six types of BPV have been characterized, of which BPV-1 cause frond fibropapilloma of udder and teat, BPV-5 cause rice grain fibropapilloma of udder and BPV-6 cause frond epithelial papilloma of the bovine udder and teat.

The immune-suppressive factors play a role in progression of bovine papillomatosis as mentioned by Radostitis *et al.* (2007). Koski and Scott (2003) reported 5 out of 13 papillomatosis infected cattle suffered from parasitic gastroenteritis due to nematodes that had an immune suppressive effect. Cam *et al.* (2007) explained the role of levamisole as non specific immune stimulant in bovine papillomatosis.

Different methods have been used to treat bovine papillomae. The present study deals with successive treatment of bovine papillomatosis using autohemotherapy and Levamisole.

Case history

A two year old female Holstein Friesian cross bred heifer was presented to the Veterinary Hospital, Gauribidanur, Chickballapur Dist, Karnataka with the history of 0.25mm

to 50mm diameter flat, round, dome shaped and filliform type cutaneous warts on all teats. Few warts were also distributed over body at shoulders and below eye region. Animal had normal mucus membranes, appetite and rectal temperature. Also the hematology values fell within the normal range. So, based on the clinical lesions, the case was diagnosed as bovine teat papillomatosis.



Fig. Pappiloma before treatment and after end of treatment

Treatment

Auto hemotherapy was adapted as treatment in the present case since the animal failed to respond to thuja ointment. Accordingly, 20ml venous blood was drawn using 18G hypodermic needle in a disposable syringe from the jugular vein from the affected animal, 10ml of drawn venous blood was injected deep intramuscularly in the gluteal region and the remaining 10ml of it was injected subcutaneously in the lateral neck region with all sterile precautions. The treatment was repeated once in a week for four weeks continuously. Chlorphenaramine maleate Levamisole was administered orally at a dose of 2.5 mg/kg/day on alternate days upto day 10 to boost up immunity and as antihelmenthic. After third injection, the papilloma growths showed signs of regression and inflammation on bigger size papillomas. Following the fourth injection, most of the papilloma growths were reduced leaving behind wound. Hence, farmer was advised to use Gamma BHC spray over the wound topically to avoid problem with secondary bacterial infection and myiasis. The animal completely recovered at the end of six weeks.

Discussion

Teat papillomatosis has been reported in dairy herds worldwide as a cattle health problem resulting in economic losses (Campo, 2003). While milking can become difficult in markedly affected individuals, ulceration and rupture of established cutaneous lesions might predispose dairy cattle to mastitis and distortion of the milk ducts. Additionally, the maintenance of affected cows with alteration in mammary gland shape and even of herds with a high number of affected animals may prevent economic profits in the dairy industry (Borzacchiello *et al.*, 2008)

Halil *et al.* (2003) treated bovine papilloma completely with a combination of auto hemotherapy and autogenous vaccine within a period of 1.5-2 months. But, Turk *et al.* (2005) and Sreeparvathy *et al.*, (2011) found 93.5% and 100% efficiency respectively with autogenous vaccine given at varied intervals. However autogenous vaccine had only little effect in ailing animals, it would be more helpful in cases of earlier stage of disease (Salib and Farghali, 2011). Hegde (2011) and Nehru (2015) reported successful treatment with auto-hemotherapy alone after 6 weeks. Whereas, Jana (2015) reported 90% recovery in ailing animals treated with auto-hemotherapy alone whereas auto-hemotherapy along with Levamisole brought about 100% recoveries and this was in accordance with the present study.

Conclusion

Teat papillomatosis can be cured more efficiently when Levamisole given in treatment along with auto-hemotherapy.

References

- [1] Borzacchiello, G. and Roperto, F. (2008). Bovine papilloma viruses, papillomas and cancer in cattle. *Veterinary Research*. **39**: 45.
- [2] Cam, Y., Kibar, M., Atasever, A., Atalay, O. and Beyaz, L. (2007). Efficacy of levamisole and Tarantula cubensis venom for the treatment of bovine cutaneous papillomatosis. *Vet. Rec.* **7**, 160(14): 486-488.
- [3] Campo, M.S. (2003). Papillomavirus and disease in humans and animals. *Vet Comp Oncol.* **1**:3-14.
- [4] De-Villiers, E.M., Fauquet, C., Broker, T.R., Bernard, H.U. and Zur Hausen, H. (2004). Classification of papillomaviruses. *Virology*. **324**:17-27.

- [5] Halil, S.B., Oktay, K., Ibrahim, C. and Zeliha, F. B. (2003). Comparison of autogenous vaccine and autohaemotherapy administrations in the treatment of bovine papillomatosis. *Turk. J. Vet. Anim. Sci.*, **27**: 703- 707.
- [6] Hegde, G. (2011). Cutaneous papillomatosis in a non-descript cow. *Vet. Sci. Res. J.* **2**: 37-38.
- [7] Jana, D. (2015). Studies on bovine and bubaline papillomatosis with special reference to its epidemiology, clinicopathology and therapeutics. PhD Thesis submitted to University of Kalyani, West Bengal.
- [8] Koski, K.G. and Scott, M.E. (2003). Gastrointestinal Nematodes, Trace Elements, and Immunity. *J. of Trace Elements in Exptl Med.* **16**: 237–251.
- [9] Nehru, A.P., Sunandhadevi, S., Rama, T and Muniyappan, N. (2017). Efficacy of Auto-Hemotherapy in Bovine Teat Papillomatosis: A Case Report. *Advances in Animal and Veterinary Sciences.* **5**: 350
- [10] Radostitis, O.M., Gay, C.C., Hinchcliff, K.W. and Constable, P.D.(2007). Textbook of Veterinary Medicine, 10th edition 2008 print.; printed by El-sevier, Spain, ISBN: 978-0-7020-2777-2, :1421-1423.
- [11] Salib, F.A. and Farghali, H.A. (2011). Clinical, epidemiological and therapeutic studies on Bovine Papillomatosis in Northern Oases, Egypt in 2008. *Veterinary World*, **4(2)**:53-59
- [12] Sreeparvathy, M., Harish, C. and Anuraj, K.S. 2011. Autogenous vaccination as a treatment method for bovine papillomatosis. *J. of Liv Sci.* **2**: 38-40.
- [13] Turk, N., Milas, Z. and Staresinal, V. (2005). Severe bovine papillomatosis: detection of bovine papilloma virus in tumour tissue and efficacy of treatment using autogenous vaccine and parammunity inducer. *Veterinarski arhiv.* **75** : 391-397.