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Case Report

Autogenous vaccine for Bovine Papillomatosis (Warts)

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Abstract

The cutaneous growth on the skin commonly in neck, teat and also in certain other region of the body is a characteristic feature of Bovine Papillomatosis (warts). A one and half year old female Holstein Friesian cross bred heifer was presented with cutaneous warts on the neck, udder region and also all over the body which was filiform type in nature and of different sizes. Few months earlier, the case was treated elsewhere and based on history and physical examination it was diagnosed as bovine Papillomatosis. In this study only one dose of autogenous vaccine was given intramuscularly instead of regular autohaemotherapy where the treatment goes for four weeks. After fifteen days of interval the warts were showing shrinkage, later by six weeks all the wart tissue got sloughed off and the skin was free of warts.

Keywords: Warts, autogenous vaccine, skin

Introduction

The bovine papilloma (commonly known as warts) is caused by Bovine papilloma virus-1 & 2 which causes cutaneous warts on all over the body of cattle (Mehmet *et al.*, 2012) [9]. In the nucleus of squamous epithelial cells the DNA virus multiplies inducing skin warts (De Villiers *et al.*, 2004) [4]. Type-1 virus causes the fibro papilloma of the skin and teat. Often this case was treated by anthiomalate, surgical removal, autohaemotherapy and homeopathic drops, but in the present study, the heifer treated with triturated wart tissue gave successful results.

Case History

A Holstein Friesian crossbred heifer aged about one and half years was presented for treatment at Veterinary Dispensary Kudlapura, Nanjangud, Mysore, Karnataka. With a history of having tumour like mass (warts), which is mainly on the neck (bigger size), also on the udder and even in few regions of the skin which were smaller in size. The bigger wart was like filiform in nature and it was bit hard in nature. The animal was elsewhere treated for the same but there was no improvement. Except the warts all other parameters were normal. Due to these warts on the body the farmer found it very difficult to sell the heifer. Based on the history, physical examination and the lesions it was diagnosed as the bovine Papillomatosis (warts).

Treatment

As it was already treated elsewhere, the regular treatment with lithium anthiomalate injection, local application of tuja ointment was not followed and also the autohaemotherapy was dropped. In this case the part of the wart was incised surgically with asepsis and collected a small portion (about 20 gm) of the wart tissue which was then transferred to the mortar and pestle. The tissue was triturated with 20 ml of distilled water. After complete trituration, the tissue along with distilled water is sieved using filter paper.

The filtered suspension (about 10 ml) is diluted with enrofloxacin injectable solution (about 20 ml) to avoid contamination. To the triturated liquid about 0.7ml (or 2.5ml for 100ml of suspension) of formalin was added to inactivate the virus. The suspension now becomes the autogenous vaccine, which is kept for 2 hrs in room temperature before vaccination.

The autogenous vaccine about 30 ml was given intra muscularly in the thigh region (15ml on both thighs) and a dose of anti histamine was given to avoid any reactions with the tissue and advised the owner for weekly check-up.

On first week very mild shrinkage of the wart tissue was observed. On second week of observation the wart tissue shrank in size and upon pulling with the forceps the portion of wart tissue got sloughed off from the skin. After removing the sloughed off tissue (only at neck region) the area (wound) was cleaned with tincture iodine and povidone iodine ointment

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was applied. Advised the owner to apply the ointment daily and spray Gamma BHC topical spray to avoid myiasis and it also helps in healing process. After one and half month the animal was presented for general checkup, where all the warts in the neck and all over the body was slogged off and the animal was recovered completely making farmer happy.



Fig 1: Before treatment



Fig 2: Round shaped wart



Fig 3: Animal after complete recovery

Discussion

In the present case the heifer was diagnosed as cutaneous bovine papillomatosis based on clinical signs, the BPV in dairy herds reported causing huge economic loss as well as health problem (Campo, 2003) [2]. Mehmet *et al.* (2012) [9]

reported BPV-1 & 2 in cattle causes fibropapillomas and epithelial proliferation causing hyperplasia, histologically dermal fibromas where extremely cellular fibrous mass covered by hyperplastic epithelium at 45 days of inoculation of biopsy and at 60-90 days excessive production of keratin (Cheville, 1964) [3].

The use of single dose of autogenous vaccine gave best result in 15 days when compared to Pattanayak (2004) [11], Hegde (2011) [5] and Nethra *et al.* (2018) [10], where they used whole blood for treatment, which took repeated doses of injections for few weeks but Mathi *et al.* (2016) [7] treated animals sublingually with thuja drops daily for 23 days which consume time of treatment, whereas Abdi (2018) [1] used ivermectin at the rate of 0.2mg/kg body weight at two week interval.

In the present therapy the autogenous vaccine can be prepared within few hours and is cost effective. It gives good result with only one dose for treating warts in field condition. There are different treatment protocol followed by different researchers. Sreeparvathy *et al.* (2011) [13] and Mayilkumar *et al.* (2014) [8] prepared autogenous vaccine and animals were treated at a week interval for four weeks, whereas Inayath *et al.* (1999) [6] used vitamin-E and selenium along with autogenous vaccine for immune stimulation which was treated repeatedly for successive results. Terziev *et al.* (2015) [14] surgically removed the warts and used autogenous vaccine for treating the warts whereas Ranjan *et al.* (2013) [12] used both autogenous vaccine and auto hemotherapy which gave varied degrees of results.

Conclusion

The present study helps the field veterinarian to treat bovine papillomatosis effectively with an autogenous vaccine at a minimal cost.

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