

Original Research Article

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Bovine Papillomatosis and its Treatment under Farm Condition

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ABSTRACT

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Bovine papillomatosis is the viral infection commonly affecting heifers and milch animals. Warts are usually found on the head, neck, shoulders and sensitive parts of body *i.e.* the vaginal mucosa. The present study was conducted on eight heifers having wart on different parts of body in an organized cattle farm. The major aim of the study was to determine the cure rate of papillomatosis in cattle after four weeks using different treatment regimen *i.e.* Thuja, Anthiomaline and prepared autogenous vaccine. Autogenous vaccines were prepared from chemically treated warts taken from animals in the herd. The autogenous vaccine is more appropriate to have the strain of *papillomavirus* causing the wart problem in the herd than commercial vaccines. The study revealed that the homeopathic medicine Thuja (Thuja- 30) showed 100 per cent cure rate with no reoccurrence followed by Anthiomaline which showed 75 per cent reduction in wart size in infected animals. The administration of prepared autogenous vaccine did not show complete sloughing of wart in affected animal therefore, had zero efficiency.

Introduction

Cutaneous papillomatosis is also known as warts, which is an epithelial cell over growth, infectious in nature and appears approximately eight weeks after exposure to the infectious virus. It is highly contagious disease that can be easily spread from one animal to other by close contact. The indirect transmission of these viruses is possible by contaminated feeders, waters, halters and even pen walls. Warts are caused by a highly contagious virus known as papillomas, these are small, cauliflower-shaped growths occur on very young animals. The warts are characterized by solid outgrowth of the epidermis with cauliflower like appearance.

These are most commonly seen on the nose, chin, lips, neck, shoulder and brisket region of the body. The presence of warts on the different body parts diminishes the value and aesthetic quality of the animal. Once an animal acquires the disease, it usually develops immunity within three weeks to four weeks after the initial infection. Warts are commonly seen in all animal species (Radostits *et al.*, 2007), and are highly species-specific (Borzacchiello and Roperto 2008). There are four major types of warts *i.e.* squat, pedunculated, flat and tags. Though warts are little harm and disappear spontaneously over long time, but recurrence of papilloma's can be noticed under improper hygiene and care. Sharma *et al.*, (2005)

reported that occurrence of papillomas were observed in winter season (37.78 per cent) followed by autumn (33.33 per cent), summer (20.00 per cent) and spring (8.89 per cent) respectively. Surgery and vaccination, or a combination of both is the most common forms of treatment and prevention. There are no exact drug regimens for warts to prevent its reoccurrence. The homeopathic medicine, autogenous vaccine, autohemotherapy and anthiomaline can be used for the treatment. In the present study, the comparison between the effect of anthiomaline, autogenous vaccine and homeopathic medicine thuja is studied.

Materials and Methods

In the present study eight heifers having warts on different part of body were selected. All the animals were isolated and kept in a different pen for complete observation. These animals were differentiated into four groups each having two animals with different treatment *i.e.* homeopathic thuja (group one), anthiomaline (group two) and autogenous vaccine (group three) treatment. Two animals were separated and marked as control (group four).

Preparation of Autogenous Vaccine

The samples from the older growths of affected animals were resected under aseptic conditions after injecting xylazine 0.7 ml intramuscular as shown in figure 1. The resected wart (Fig. 2) sample was suspended in normal saline (30 ml/g of tissue) and minced properly using mortar and pestle.

Further, the minced sample were filtered through muslin cloth and treated with formalin (0.4 ml per 100 ml of filtrate), to inactivate the virus and kept overnight. An antibiotic *i.e.* Strepto-Pencillin 2 mg/ml was also added in the filtrate and transferred into vials and kept at 0 to 4⁰ C until use.

Treatment

Thuja is a plant derivative obtained from *Thuja occidentalis* which is used for homeopathic preparation available in market with a brand name of Thuja-30. In the present study, two animals in group one were treated with oral administration of 10 drops of thuja extract twice a day and topical application of thuja ointment at the site of wart for four weeks (Kavithaa *et al.*, 2014). The animals in the group two were treated with 15 ml of Anthiomaline which was administered by deep intramuscular route at 48 hours interval for four weeks, each ml of anthiomaline contains 60 mg of Lithium Antimony thiomalate. The animals in third group were treated using prepared autogenous vaccine administered at a dose rate of 5 ml subcutaneously and revaccinated at 7 day intervals for four weeks (Sreeparvathy *et al.*, 2011). Each animal in different treatment were observed up to four week until termination of treatment.

Results and Discussion

The current study revealed that the warts are commonly occurring in the heifers and this can be spread from one animal to other by contact. The papillomatosis is occurring due to several factors including inheritance, hormonal disorder and suppressed immune system (Campo *et al.*, 1994). Immunity of an animal plays a major role in acquiring the infection (Inayat *et al.*, 1999). Treatment with *Thuja occidentalis* (thuja-30, a homeopathic medicine) at the rate of 10 drops twice a day along with application of Thuja ointment on the affected area for a span of four weeks was found to be 100 per cent effective in complete sloughing of wart and development of normal tissue as shown in figure 3. Shakoor *et al.* (2012) reported 100 per cent recovery of wart after continuous oral administration of Thuja for three weeks in dairy cattle.

Fig.1



Fig.2



Fig.3 Animal treated with Thuja (Homeopathic medicine)



Fig.3 (a) Before treatment

Fig.3 (b) After treatment

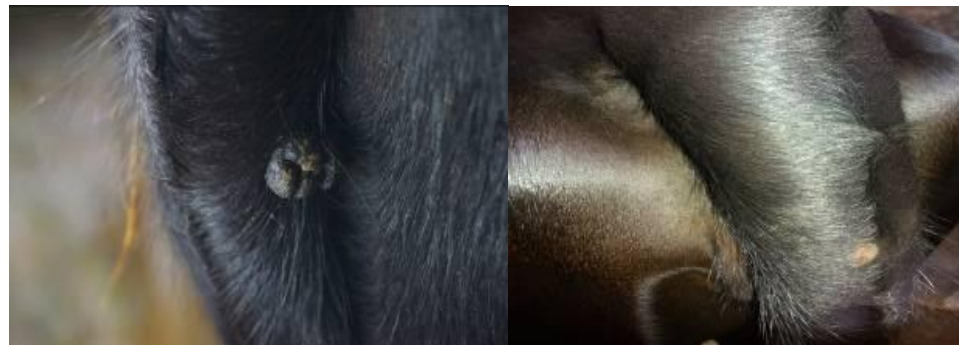


Fig.3 (c) Before treatment

Fig.3 (d) After treatment

Fig.4 Animal treated with Anthiomaline



Fig.4 (a) Before treatment

Fig.4 (b) After treatment

The major drawback of homeopathic medicine is that it takes more time to exert its effect in animal but results are observed after treating continuously for one month. Administration of Anthiomaline 15ml by deep intramuscular route at 48 hours interval for four weeks revealed 75 per cent reduction in the papillomatous growth as shown in figure 4.

A study conducted in Erode by Kavitha *et al.* (2014) shows that treatment of wart affected animal with anthiomaline recovered 81 per cent of infection. In the present study, administration of prepared autogenous vaccine showed zero efficiency in curing the condition. A study conducted by Pence (2005) also showed that autogenous vaccine was ineffective in regression of warts. In contrast to the present study, Ranjan *et al.* (2013) reported that autogenous vaccine was found to be effective in treating bovine papillomatosis. Commercial vaccines are more effective if they contain the specific strain that is involved in the infection. Autogenous vaccines are usually made by veterinarian and involve removing the wart to produce a specific virus sero-type vaccine. Success of vaccination is depended on individual immunity and its response to the vaccination.

In conclusion, the present study revealed that treatment of bovine papillomatosis using Thuja (homeopathic medicine) was found to

be most effective therapy followed by anthiomaline. Zero cure rates were noticed in the wart after four weeks of treatment using prepared autogenous vaccine.

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