Non-surgical management of caprine cutaneous papillomatosis

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Abstract

The present study was conducted on an apparently healthy Black Bengal female kid of two months old, affected with cutaneous papillomatosis showing pedunculated papillomas under the tail, around anus and perineum, and on the abdomen. A combination of weekly autohaemotherapy and daily phytotherapy (Oint. *Thuja occidentalis*) was used to treat the condition. The autohaemotherapy was done for about four times. More than 50% of papillomas regressed completely after a week. The papillomas were disappeared completely by the end of fourth week of treatment. The results indicated that autohaemotherapy combined with Oint. *Thuja occidentalis* can lead to complete cure of caprine cutaneous papillomatosis without any recurrence.

Keywords: Autohaemotherapy; papillomatosis; phytotherapy; *Thuja occidentalis*

Introduction

The goat husbandry is yielding good economic returns under minimum input and hence is rapidly adopted by small and marginal farmers in developing countries from west Africa (Tilahun *et al.*, 2013; Zailani *et al.,* 2021) to far east Asia (Salvana *et al.,* 2021). The caprine papillomatosis is a common viral disease caused by caprine papillomavirus (CPV) of the Papovaviridae family affecting mostly the young animals. The cutaneous papillomatosis is one of the three types of caprine papillomatosis, other two being mammary and genital papillomatosis. The predisposing factors for the disease are non-pigmented skin, age, excessive exposure to ultraviolet light (Uberoi *et al.,* 2016), and contact with papilloma virus. The disease is characterized by presence of small to medium sized warts which are cauliflower like growths on skin and mucous membranes. Most papillomas are benign and do not proliferate. But, they can undergo malignant transformation (Thaiwong *et al*., 2018). The disease can result in retarded growth, weight loss, decrease in quality of hide and suppression of the immune system giving opportunities to secondary bacterial infections. The disease may lead to a serious economic loss if not diagnosed and treated promptly. Surgery and vaccination are the most common modes of treatment and prevention for papillomatosis respectively. Various alternative treatments such as autohaemotherapy (Dhule, 2013), autogenous vaccine (Aydin *et al.*, 2020; Raniprameela *et al.*, 2015; Mayilkumar *et al.*, 2014), Inj. Anthiomaline (Jaglan *et al.*, 2018; Vijayasarathi *et al.*, 2018; Kumar *et al.*, 2017), and Oint. *Thuja* (Shakoor *et al.*, 2012) etc., were reported for bovine papillomatosis. There is paucity of information on caprine papillomatosis, and the present case study focussed on non-surgical management of caprine cutaneous papillomatosis in a kid with autohaemotherapy and phytotherapy (Oint. *Thuja occidentalis*).

Case presentation

The ICAR- National Institute for Research on Commercial Agriculture- Krishi Vigyan Kendra, Kalavacharla was maintaining around 50 Black Bengal goats in slatted floor housing system, and rearing under extensive system. A female kid of two months old showed pedunculated papillomas under its tail, around anus and perineum, and on the abdomen. The kid was apparently healthy. Rectal temperature (102 ^{o}F), pulse (72 beats per minute) and respiration rate (21 breaths per minute) were found to be normal on the first day of examination. Feed intake, defecation and urination were also normal. On gross examination, pedunculated papillomas were found under the tail, around anus and perineum, and on the abdomen. Some amount of papilloma mass was collected, fixed in 10% formalin, sent to the department of veterinary pathology, College of Veterinary Science, Proddatur, Sri Venkateswara Veterinary University for histopathological examination, which confirmed the case as cutaneous papillomatosis.

Management

The condition was treated with weekly autohaemotherapy (Figures 1-4) and topical application of Oint. *Thuja occidentalis* (Santi Homeo) daily (Figure 5). The procedure of autohaemotherapy involved taking out of 2 ml blood from jugular vein using one inch needle of 24 gauge, and injecting it immediately to the animal subcutaneously at a single site on its back. More than 50% of papillomas regressed completely after a week. The autohaemotherapy was done for about four times. The weekly progress in the curing of the disease condition was depicted in Figures 1-4. The papillomas were disappeared completely by the end of fourth week of treatment.

Discussion

In the preset case study, a combination of alternative therapies was chosen to provide better cure for caprine cutaneous papillomatosis. The autohaemotherapy and phytotherapy (Oint. *Thuja occidentalis*) work by stimulating the immune system of the animal (Niño-Sandoval *et al*., 2021) and inducing apoptosis in cancer cells (Mahajan *et al.*, 2017), respectively. The present study revealed that the combination of autohaemotherapy and phytotherapy (Oint. *Thuja occidentalis*) can completely cure the caprine cutaneous papillomatosis in about four weeks. Kumar *et al.* (2017) reported the use of same combination of alternative treatment methods as the present study. Some authors reported complete cure of cutaneous papillomatosis by a single alternative treatment. Shakoor *et al*. (2012) observed healing of papillomatosis with oral drops of *Thuja occidentalis* while Dhule (2013) found the same result with autohaemotherapy.

Fig. 1: Gross view of site of infection on the day of **first** dose of autohaemotherapy

Fig. 2: Gross view of site of infection on the day of **second** dose of autohaemotherapy

Fig. 3: Gross view of site of infection on the day of **third** dose of autohaemotherapy

Fig. 4: Gross view of site of infection on the day of **fourth** dose of autohaemotherapy

Fig. 5: Application of Oint. *Thuja occidentalis*

Conclusion

Based on the results, it can be concluded that the combination of autohaemotherapy and phytotherapy (Oint. *Thuja occidentalis*) can completely cure the caprine cutaneous papillomatosis in about 3 weeks.

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