

# Autogenous vaccination as a treatment method for bovine papillomatosis

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## Abstract

Bovine Papillomatosis (BP) is a cutaneous viral disease of cattle caused by Bovine Papilloma Virus (BPV). A case of bovine papillomatosis in a heifer and its treatment with the autogenous vaccine is presented. The vaccine is prepared from sample collected from older wart growths under aseptic conditions, minced, suspended in normal saline, filtered through muslin cloth and treated with formalin. The animal was treated with a dose of 5 ml subcutaneously and re vaccinated at 7 day intervals for four weeks. Administration of autogenous vaccine caused sloughing of the warts from the affected areas and the animal recovered completely in six weeks.

**Key words:** bovine papillomavirus, autogenous vaccine

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### ***Introduction***

Infectious papillomatosis or wart is a disease occurring in cattle, goats, dogs, rabbits, horses and humans in various parts of the world. Bovine papillomatosis is a contagious disease of cattle occurring as warts/papilloma on skin and mucosa, caused by BPV types 1 to 10 (Vidhya *et al*, 2009). Infection by BPV occurs as a result of multiplication of the virus in basal cells, leading to wart formation, however, most warts are benign and do not proliferate indefinitely.

Papilloma virus infection in cattle can result in weight loss and retarded growth. The lesions are often associated with the mammary gland and interfere with milking. It can lead to reduction in milk yield. The quality of the hide is also deteriorated. Thus the disease can lead to a serious economic loss if not diagnosed and treated promptly. The present clinical report describes the use of an autogenous vaccine in cattle as a treatment method for infectious papillomatosis.

### ***Materials and methods***

During December 2010, a one year old Jersey crossbred heifer suffering from severe generalized papillomatosis was presented in Veterinary hospital, Adimaly, Kerala. The animal had multiple papillomae, varying in size from 0.5 to 50 mm in diameter, disseminated on the ears, head, neck, shoulders, abdomen, and udder. The animal was apparently healthy. The case was diagnosed based on the clinical signs.

#### *Preparation of autogenous vaccine and treatment*

Sample from older growths were resected under aseptic conditions, minced, suspended in normal saline, filtered through muslin cloth and treated with formalin, to inactivate the virus. The suspension was kept overnight. Antibiotic (Strepto-Pencillin 2 mg/ml) was also added. The animal was treated using autogenous vaccine administered in doses of 5 ml subcutaneously and revaccinated at 7 day intervals for four weeks.

### ***Result***

Administration of autogenous vaccine caused sloughing of the warts from the affected areas. Regression of papillomae occurred in about 3 weeks after the beginning of treatment and within 6 weeks all warts spontaneously disappeared and animal showed complete recovery. No recurrence of papillomae has been observed in treated cow.

### ***Discussion***

Infectious papillomatosis is most often seen in calves and young cattle less than 2 years of age, although adult bovine animals may become infected. In cattle, cutaneous papillomae can be encountered on almost any part of body. Some papillomae are topographically specific and caused by distinct viruses having different antigenic reactions and DNA compositions. Therefore a vaccine providing immunity to one of them does not confer immunity to other. Although, cutaneous papillomae are usually

benign but those of alimentary tract may become malignant. Successful treatment of papillomatosis has been a great challenge for field practitioners. Commercially available vaccines are less efficacious. Different methods have been used to treat bovine papillomae. Surgical intervention may not be possible if a large area is involved and some times aggravates the condition. Effective medicines for wart are not available.

Although bovine papillomatosis is a self-limiting disease the animal in our study had long lasting multiple papillomas without any sign of regression for months. The diagnosis was made from the clinical signs. Reports of bovine papillomatosis treatment with vaccine produced from formalinized suspension of wart tissue indicate variable results. Treatment with vaccine showed 93.5% efficiency, autogenous vaccination made from sterile homogenized tumour tissue which was administered twice, prevented new cases and with sick animals recovering after vaccination (Turk *et al*, 2005).

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