

PCR Detection, Histopathological Characterization, and Autogenous Immunization of Bovine Papillomatosis (Wart) in Cattle, in Mekelle, Northern Ethiopia

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Abstract : Bovine papillomatosis (wart) is one of the economically important bovine skin diseases worldwide, caused by a group of viruses named papillomaviruses (PVs). However, it has often been misdiagnosed as other skin diseases and remained untreated. In order to determine the status of the diseases, twenty-two farms were visited, and fourteen infected cattle with cutaneous papillomatosis were identified from a total of 235. Papilloma biopsies were taken for molecular and histopathological characterization, the therapeutic trial of an autogenous vaccine was evaluated on infected animals. The overall status of bovine papillomatosis in this study was calculated as 5.96% (14/235). The disease was found to be statistically significant in the age groups less than two years ($X^2 = 26.69$, $P = 0.0001$). The more prominent histologically characterized lesions in the sampled tissue were identified as squamous papilloma and fibro-papilloma. The Polymerase Chain Reaction (PCR) based identification revealed that all the clinically and histo-pathologically characterized papillomatosis cases were found to be infected with Bovine Papilloma Virus1 (BPV1), indicating that BPV1 was the most common and sole causative agent of the diseases in the study area. In immunizing active bovine papillomatosis, an autogenous vaccine therapeutic trial demonstrated excellent results, with practically full recovery and no recurrence of the infection. Hence, it is concluded that bovine papillomatosis is an economically important disease of young age group cattle as well as a treatable disease. So, the production of marketable autogenous vaccines against bovine papillomatosis should be started and given at an early stage.

Keywords : autogenous vaccine, bovine papillomatosis, bovine papilloma virus1 clinical-pathology, polymerase chine reaction, wart

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