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Concurrent occurrence of cutaneous and diphtheritic form of pigeon pox in pigeon (*Columba Spp.*) and its successful amelioration by garlic and honey

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Abstract

Fowl pox is a disease of chickens and turkeys caused by a DNA virus of the genus Avipoxvirus. Disease is a contagious viral disease of birds of worldwide occurrence. Present study reports concurrent occurrence cutaneous and diphtheritic form of pigeon pox in pigeon (*Columba spp.*) and its successful amelioration with garlic and honey.

Keywords: Pigeon, histopathology, garlic and honey

1. Introduction

Fowl pox is a viral disease of chickens. The disease has been eliminated from many parts of the world through use of vaccine [Tripathy and Cunningham, 1984] ^[1]. Wild birds present source of infection for domesticated commercial poultry birds. Fowl pox is characterized by the formation of proliferative lesions and scabs on the skin, and diphtheritic lesions in the upper parts of the digestive and respiratory tracts [Brunner and Gillespie, 1973] ^[2]. Pigeon pox affects all age groups and sexes and is a slowly developing disease resulting in morbidity and mortality. A case of concurrent cutaneous and diphtheritic form of pigeon pox in pigeon is presented and its successful amelioration by garlic and honey.

During October 2017, male adult pigeon was brought by research scholar of Department Of Veterinary Medicine Ethics and Jurisprudence to the dispensary with the history that bird was found lying along the roadside of girls' hostel. On examination, scattered multifocal firm grayish white nodules ranging from 0.2x 0.3x 0.1 to 0.2x 0.2 x 0.1 cm in sizes were seen around the eyes, beak and both the legs. The lesions have completely surrounded the eyes and bird was having yellowish cheesy material surrounding the eyes and was unable to open both eyes. Multiple light yellowish nodules were seen on the mucosa of mouth, pharynx, and larynx. Impression smear was made on denuded lesion on beak and tissue sample was collected aseptically for Histopathological examination

Histopathological examination of cutaneous nodules revealed presence of intracytoplasmic inclusion bodies in the cells. On the basis of clinical examination, histopathological features, and the presence of viral intracytoplasmic inclusions in epidermal cells, a diagnosis of poxvirus infection was made. [Tripathy and Reed, 2003] ^[3] has proposed that Gross lesions of cutaneous and diphtheritic forms are usually sufficient to suspect pox infection. Transmission of the disease is largely the result of wound infection created by mosquitoes and other biting and sucking insects such as mites or pigeon louse flies.

The pigeon was housed in plastic box and holes were made to provide sufficient ventilation and to prevent exposure to flies and mosquitoes. Pigeon was provided with clean water and crushed maize grains adlib. The pigeon was treated for 7 days and the treatment protocol comprised of crushed garlic (*Allium sativum*) mixed with honey at 1:1 ratio and macerated with pestle and mortar. The mixture was applied on tropical lesion washed after 20 minutes with distilled water and half teaspoonful of mixture was fed to pigeon orally twice daily. After three days of treatment animal showed recovery from lesion on mouth followed by lesions around eyes and lesion on beak were last to recover. The amelioration of disease by honey and garlic mixture is supported by the fact that Garlic has antiviral [Tsai *et al.*, 1985] ^[4], antimicrobial Aged garlic extract (AGE) has reported to have bioactive compounds collectively called as organ sulfur (OS) compounds responsible for the numerous health benefits

[Kyo *et al.*, 2001; Percival, 2016] ^[5]. [Chandrashekar *et al.*, 2011] ^[6]. reported garlic possesses remarkable immunomodulatory activity.

It can be concluded that cocktail of garlic and honey posses the activity against pigeon pox. The results of present study points towards the presence of active agents present in garlic and honey which have therapeutic potential in pigeon pox.

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