

Review Article

A REPORT ON OUTBREAK OF ANTHRAX IN ELEPHANT

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Abstract: A study was conducted on the outbreak of Anthrax in elephant for the period from 2006-2009 in Erode District of Tamilnadu. During this study period, five elephants died had unclotted blood from the natural orifices. With suspected diagnosis, the blood smears were prepared, fixed and stained with polychrome methylene blue and Leishman stains. The blood smears examined showed characteristic McFadyean reaction. The present report revealed that the presence of Anthrax in elephants in tropical climate and these infected animals are potential reservoirs of infection for other wild and domestic animals.

Keywords: Anthrax, Elephant, Blood Smear, Tropical Climate.

INTRODUCTION

Anthrax is one of the most important zoonotic disease because of its worldwide distribution with wide host range and tremendous losses due to mortality of animals. Food animals and their products constitute potential danger to those persons whose occupation necessitates handling of animal products or contact with animals. In human beings it causes various forms of disease syndrome like malignant carbuncles, wool sorter disease and intestinal anthrax (Chakrabarti, 2005).

Anthrax is caused by rod-shaped gram positive bacteria *Bacillus anthracis*, surrounded by a well-developed capsule. The capsule is important for diagnosis of the organism in blood smears. The bacteria sporulate to form spores when they come in contact with the environment. Spores are very hardy and can survive for years in old bones and in the soil.

In India, the literature about existence of anthrax in domestic and wild animals (Arya and Bhatia, 1992; Rawat *et al.*, 1990; Sharma *et al.*, 1992; Sharma *et al.*, 1996) is available but symptomatology is not well described in Indian literature on anthrax in elephants. The present report is based on the outbreak of anthrax in elephant at Thalavadi and Thottakombai forest area of Erode District of Tamilnadu.

MATERIALS AND METHODS

During 2006 – 2009, five elephants died (four female and one male) at Thalavadi and Thottakombai forest area of Erode District of Tamilnadu. Necropsy findings revealed absence of rigor mortis, dark tarry blood exuded from the natural orifices (does not clot), rapid putrefaction, and subcutaneous swellings were noted. Based on the features the disease was suspected to be anthrax. So no postmortem was done. With suspected diagnosis, the blood smears were prepared from dead elephants. The smears were fixed and stained with polychrome methylene blue and Leishman stains.

RESULTS AND DISCUSSION

The blood smears examined showed characteristic McFadyean reaction characterized by the presence of large square ended blue rods in short chains with pink capsules. The Necropsy findings observed in the present study are in accordance with the signs reported by Blood et al. (1979) and McFadyean reaction was also reported by Chakrabarti (2005). Consequent upon the incidence, Mass vaccination programme for cattle, sheep and goat with anthrax spore vaccine was launched, completing the process in the villages bordering the Thalavadi and Thottakombai forest area.

The present report is important in Indian context as it revealed the presence of anthrax in elephants in tropical climate and it obviously emphasizes an extensive study on prevalence of anthrax in elephants as these infected animals are potential reservoirs of infection for other wild and domestic animals.

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