Foot and mouth disease in gayals (Bos gaurus frontalis) in Calcutta Zoo

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Summary: A brief description is given of an outbreak of foot and mouth disease in gayals (Bos gaurus frontalis) which occurred in Calcutta Zoo in October 1990. Four of the five affected animals died within ten days of onset of the disease. The disease did not spread to other animals in the Zoo.

KEYWORDS: Aphthovirus  Foot and mouth disease  Gayal  India.

Foot and mouth disease (FMD) was noted in a family of five gayals of different ages in October 1990 in two adjacent enclosures of Calcutta Zoo. Apart from a loss of appetite, the animals exhibited a rise in temperature and severe mouth and mild foot lesions. Administration of antibiotics supported by fluid therapy was meticulously performed. All the affected animals became extremely devitalised and a calf, a heifer, a cow and a bull died within ten days following the onset of the disease. Post-mortem lesions revealed massive myocardial damage.

Twice a day, in the morning and in the evening, a two percent washing soda solution was sprayed around the enclosures in which wild buffalo, nilgai, yak, giraffe, elephant, antelope and deer were kept. The movement of attendants to the infected shed was restricted. In addition, the yak, elephant and buffalo were inoculated with polyvalent FMD vaccine on the second day of onset of the disease in the gayals.

The source of infection may have been the number of people visiting the Zoo from endemic districts. Wide spread outbreaks of FMD among cattle, buffalo, goats and pigs had been recorded during the months of August and September 1990 in the districts of West Bengal. In addition, meat including beef and mutton had been supplied regularly to the Zoo as part of the daily ration for carnivorous animals. These commodities were being procured from villages where the prevalence of FMD virus serotype O outbreaks had been recorded.

Samples of tongue epithelium collected from the mouth lesions of the affected animals were subjected to complement fixation test (1) and baby mouse inoculation. Serotype O virus was identified.

Susceptible wildlife species rarely fall victim to FMD, and there are limitations to taking adequate therapeutic and preventive measures when these animals are

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involved. However, efforts to contain the virus within the affected species proved effective in the present case. The infection did not spread to the other susceptible species of animals in the Zoo.

ACKNOWLEDGEMENTS

The authors extend gratitude to the Indian Council of Agricultural Research for providing the facilities to conduct the study. The cooperation of the Director of the Calcutta Zoo and Veterinary Officers is also greatly appreciated.

REFERENCE