

EPIDEMIOLOGICAL STUDIES ON HAEMORRHAGIC SEPTICAEMIA IN BOVINES IN HARYANA STATE DURING 2001-2005

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ABSTRACT

Based on epidemiological studies mean values of morbidity, mortality and case fatality for haemorrhagic septicaemia in Haryana state during 2001–2005 were found to be 2.29 ± 0.43 , 0.75 ± 0.13 and 41.91 ± 5.17 per cent, respectively. The geographical distribution of haemorrhagic septicaemia revealed more outbreaks in wet regions of Haryana. Maximum morbidity of 6.46% was found in Rohtak district, followed by 5.96% in Gurgaon district. Higher mortality was found in Rohtak and Gurgaon districts with 2.40 % and 1.59 % mortality, respectively. Maximum number of seven outbreaks were recorded in Hisar followed by six in Ambala district. The maximum case fatality of 48.57 ± 3.41 per cent was found in rainy season followed by 32.06 ± 10.48 per cent in winter and 10.17 ± 1.18 in summer months. A maximum of 24 outbreaks were found in winter season, followed by 12 outbreaks in rainy season and four outbreaks in summer season. A significant negative correlation ($P<0.05$) was observed between minimum temperature and case fatality and significant positive correlation ($P<0.01$) was found between rainfall and case fatality.

Key words: Morbidity, mortality, case fatality, haemorrhagic septicaemia

Haemorrhagic septicaemia (HS), is an important disease of cattle and buffaloes particularly in Asian and African countries. In India, HS is enzootic (FAO, 1995) and a number of outbreaks are reported every year from different states (Dutta *et al.*, 1990) causing heavy losses to dairy industry. The disease outbreaks and mortality rates due to HS are usually higher in buffaloes as compared to cattle (De Alwis, 1992). It is mainly caused by *Pasteurella multocida* type B:2, although other serotypes A:1, A:3, F:3 and F: 4 have also been reported from cases of HS in buffaloes in India. The disease occurs mainly during rainy and winter seasons (Jindal *et al.*, 2002). In Haryana, outbreaks of HS in cattle and buffaloes are regularly occurring for the past several years and this disease is more important in buffaloes than cattle. This communication describes the status and patterns of distribution of this disease in Haryana State.

MATERIALS AND METHODS

Collection of data: Epidemiological data related

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to HS in Haryana for the period of 2001-2005 was collected from disease investigation laboratories of Department of Veterinary Epidemiology and Preventive Medicine, CCS HAU, Hisar. The meteorological information for the same period was collected from CCS HAU, Hisar and CSSRI, Karnal. Variables taken into consideration for epidemiological studies were morbidity, mortality, case fatality and number of outbreaks. Rainfall and temperature were taken as environmental factors.

Analysis of data: The data were analyzed using bio-statistics measure including correlation analysis. Morbidity, mortality and case fatality percentage were calculated and these were correlated to environmental factors like rainfall, and minimum and maximum temperature. Seasonal incidence of the disease, morbidity and mortality were computed for the Haryana state.

RESULTS AND DISCUSSION

The mean values of morbidity, mortality and case fatality for HS were found to be 2.29 ± 0.43 , 0.75 ± 0.13 and 41.91 ± 5.17 per cent respectively in Haryana state during 2001-2005 (Table 1).

