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ABSTRACT

Increase of *Clostridium perfringens* in association with *Eimeria* in haemorrhagic enteritis in Japanese beef cattle.

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A coprological survey with detailed clinical observation of naturally occurring haemorrhagic enteritis (HE) cases was conducted to understand the pathophysiology of HE by clarifying the infection status of *Eimeria* and enteropathogenic bacteria in cattle. Faecal samples from 55 cases of HE and 26 clinically normal animals were collected, and a quantitative examination of *Eimeria* and potential enteropathogenic bacteria was performed. The number of *Eimeria* species oocysts per gram of faeces (OPG) exceeded 10,000 in 69.1 per cent of HE cases with a maximum of 1,452,500 OPG and *Eimeria zuernii* was found to be overwhelmingly dominant. A significant increase in faecal coliform count was observed in HE cases compared with clinically normal animals. Among the animals shedding >10,000 OPG, 42.9 per cent showed a remarkable increase in *Clostridium perfringens* abundance (>10^4 CFU/g) in the faeces. In the cases with C. perfringens detected, its abundance was positively correlated with *Eimeria* OPG and high *C. perfringens* abundance was always accompanied by high *Eimeria* OPG. E. *zuernii* is likely to play a crucial role in massive multiplication of *C. perfringens* in HE in cattle.

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