

Laboratory Diagnosis of *Lawsonia intracellularis* in horses

L. intracellularis typically affects young horses between weaning and one year of age, however, the disease is occasionally reported in adult animals. The clinical signs of weight loss and/or dependent oedema may be the first specific signs that infection is present.

Routine Blood Work

Abnormalities in erythrocyte parameters are rarely seen and while leukocyte numbers may also be within reference, mild neutrophilia and leucocytosis are often present. Both fibrinogen and SAA may be mildly to marked elevated (Bohlin *et. al.*, 2019). The sometimes insignificant changes are presumably due to the intracellular location of the bacterium which blunts the systemic inflammatory response. Chemistry frequently shows severe hypoproteinaemia and hypoalbuminaemia.

While PCR is highly specific with few false positive results, sensitivity is limited by PCR inhibitors in faeces and intermittent shedding of the organism. Additionally, shedding stops 4 to 6 days after starting antimicrobial therapy. In pigs, faecal PCR sensitivity to detect *L. intracellularis* ranges from 71% early in the disease to 38% in late disease (Guerdes *et al.*, 2002) and it is thought that this may be similar in horses.

Faeces and rectal swabs show similar PCR results for *L. intracellularis* and as such, rectal swabs are an alternative sample in animals with low faecal output.

References

AM Bohlin, SN Olsen, SH Laursen, A Öhman, G van Galen. *Lawsonia intracellularis* associated equine proliferative enteropathy in Danish weanling foals. *Acta Vet Scand.* March 2019;61(1):12.

Guerdes RMC, Gebhart CJ, Winkelman NL, Mackie-Nuss RAC, Marsteller TA, Deen J. Comparison of different methods for diagnosis of porcine proliferative enteropathy. *Can J Vet Res.* 2002;66:99–107.

