

SERUM PEPSINOGEN AS AN AID IN THE DIAGNOSIS OF HAEMONCHOSIS OF GOATS

W.D. PARANAGAMA, N.U. HORADAGODA, R.P.V.J. RAJAPAKSE,
A.C.M. FAIZAL* AND I.V.P. DHARMAWARDHANE**

*Faculty of Veterinary Medicine and Animal Science, University of Peradeniya,
*Veterinary Research Institute, Gannoruwa, **Colombo Municipal Council, Sri Lanka*

Assessment of gastrointestinal parasitism in ruminants based on faecal egg count is not a reliable diagnostic procedure owing to fluctuations in egg counts due to the fecundity of the parasites. Moreover, the eggs of certain gastrointestinal nematodes are morphologically similar, thus the diagnosis of *Haemonchus contortus*, one of the most pathogenic infection is difficult. This has been overcome to some extent by measuring the serum pepsinogen concentrations which has been found to be useful in the diagnosis of *Haemonchus contortus* infection, particularly in cattle and sheep. With a view of identifying its value in the diagnosis of *Haemonchus* infections in goats, two pairs of kids (age 3 months) were maintained "worm free" and after two weeks, one pair of kids was orally infected with 50,000 *H. contortus* infective larvae while the other pair served as a control. Very low serum pepsinogen concentrations (0.2 i.u.) were recorded prior to and in the early phase of the infection, while much higher concentrations (9.8 i.u.) were recorded on day 11 post infection. The peak pepsinogen (14 i.u.) was recorded on day 23 post-infection. The mean *H. contortus* worm count in the infected kids was 4320 on the day 28 when they were necropsied. The pepsinogen levels in the control animals were around 0.2 i.u. throughout the experiment.

Further, 72 blood samples and abomasa were collected from goats slaughtered at the Colombo Municipal Abattoir. The blood was assayed for the pepsinogen and the abomasa were examined for the worm burden of *H. contortus*. The *Haemonchus* worm burden was grouped according to the number of parasites and corresponding pepsinogen concentrations. The pepsinogen concentrations appeared to increase steadily with an increased worm burden. For example, when the worm burden was between 0 - 49, 49 - 199, 199 - 299 the pepsinogen levels were 1.2 i.u., 1.4 i.u. and 1.7 i.u. respectively. A worm burden of 700 - 999, 1000 - 1499 and 1500 - 3250 gave a pepsinogen concentrations of 5 i.u., 5.01 i.u. and 6 i.u., respectively. The results therefore indicate that the pepsinogen concentration in serum increases with the worm burden and that this proenzyme may be of a value in the assessment of the degree of infection caused by *H. contortus* in goats.

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