EVALUATION OF AN EXPERIMENTAL VACCINE AGAINST HAEMONCHUS CONTORTUS AND HAEMONCHUS PLACEI IN CALVES

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A vaccine containing integral membrane proteins from the intestine of Haemonchus contortus was evaluated in 4 groups of 9 worm free calves, either vaccinated or not and challenged with either 8,000 H. contortus or H. placei infective larvae. Vaccinates received 50 µg of the antigen diluted in QuilA adjuvant, while the controls got adjuvant alone. The vaccine was administered three times 21 days apart. The calves were challenged 7 days after the last immunization and killed for worm counts 43 days later. Vaccinated significantly reduced faecal egg counts (FEC) and worm burdens (P< 0.01). Calves vaccinated and challenged with H. contortus did not shed eggs in faecal samples, while the controls showed a maximum mean FEC of 61.1 (±42.3) at 31 days post infection. Then, FEC progressively declined in this group with only one animal shedding eggs in faeces 42 days post infection. With H. placei the controls FEC peaked at 35 days post infection (61.1 ±21.7) and remained relatively constant until the end of the study, while in the vaccinated group only two animals shed eggs and only on the last collection date. With H. placei the controls contained a mean (±standard error) of 551.1 (±93.7) parasites, while the vaccinates had 174.4 (±56.3) worms. The establishment rate of H. contortus was lower than that of H. placei (P< 0.01) with an average of 163.9 (±39.4) and 74.4 (±20.4) specimens in the control and vaccinated groups, respectively. It was concluded that vaccination of calves with antigens obtained from H. contortus conferred protection against both H. placei and H. contortus.