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Evaluation of a new antibiotic, tylvalosin, in the treatment of an acute outbreak of Swine Dysentery

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The objective was to evaluate the efficacy of the new macrolide tylvalosin (Aivlosin® – ECO Animal Health) for the treatment of an acute field outbreak of Swine Disentery (SD) and compare its efficacy against valnemuline (Econor® – Novartis), a well known and highly active pleuromutilin against *Brachyspira hyodisenteriae*. Overall 291 pigs with an average body weight of 59.5 kg were included in the trial. Animals were randomized by weight, sex and pen location. Pigs were distributed in two groups: 144 animals in the tylvalosin group and 147 animals in the valnemulin group. Evidence of *B. hyodisenteriae* was confirmed by microbiological analysis in the trial farm prior to the start of the study. The criterion for starting the antibiotic treatment in feed was based on at least 5% of the pigs exhibiting acute clinical signs of SD. Each group was orally medicated in the feed as follows: tilvalosin at 4.25 mg/kg BW during 10 consecutive days and valnemulin at 4 mg/ kg BW during 15 consecutive days. The trial endpoint was established after 42 days from the start of antibiotic treatments. Feed intake, average daily gain, feed conversion rate, individual weight at the beginning and at the end, mortality, illness index, faecal consistency score, treatment failures/success and relapses were measured.

The tylvalosin medicated group had better results on ADG (+38 g/day) and illness index (with statistically significant differences $p<0.001$) compared to valnemulin treatment. In addition, the average faecal consistency score ($p<0.001$) and mortality caused by SD (0% vs 3.4% $p=0.028$) were lower in the tylvalosin group with significant differences, too. SD clinical symptoms disappeared 3-5 days after the beginning of the tylvalosin treatment in all the tylvalosin medicated pens. On the other hand, some medicated replicates with valnemulin were exhibiting clinical signs (mucohemorrhagic diarrhea) until the end of the trial.

This trial demonstrates that tylvalosin at a dose rate of 4.25 mg/kg bodyweight administered in the feed for 10 days was effective in the treatment of an outbreak of swine dysentery caused by *B. hyodysenteriae*. Tylvalosin also improved both clinical as well as performance parameters compared to valnemulin and therefore this new macrolide should be considered as a first therapeutic choice for the control of this serious enteric disease.

Keywords: swine dysentery, tylvalosin, valnemulin, ADG, faecal consistency, illness index, diarrhoea

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