Influence of tiamulin therapy on weight gain in *Brachyspira* dysentery in piglets

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Justification of the approach

Among the diseases that can cause *great damage* in swine farms, treponemic dysentery (currently *Brachyspira*) has a special importance, because it involves great *economic losses*, both by growth failure and high mortality, as well as significant costs of the outbreaks *prevention and control*. 
Objective

Influence of tiamulin therapy on weight gain in Brachyspira dysentery in piglets.
Materials and methods

The experiment was conducted in a swine growing and fattening facility from Timiș County. The unit was set up as an intensive farm system, with an effective of 6500 heads.
Highest incidence and source of infection

The main *source of infection* is represented by the *sick pigs* which eliminates great amount of treponemas with faeces.

*Highest incidence* of disease was found especially in the young categories, aged between *35 - 45 days*.
The study

The study duration was 21 days
» the individual weighting of the piglets
» the drug administration
» efficiency economic (weight gain) was analyzed

The research was conducted only on sick piglets, with acute clinical signs, manifested by sanguinolent diarrhoea.
Three experimental and one Control group,

Consisting of 12 individuals/group, as follows:
– G. T1 & T2, treated P.O. with soluble tiamulin fumarate;
– G. T3, treated with oily suspension of tiamulin fumarate
– Control (untreated until day 7 of the study).
Diagnostic & Confirmation

The diagnosis was made by morpho-pathological examination

Fig. 1. Diffuse hemorrhagic enteritis (original Doma AO)
Figure 2. **Gastritis** (original Doma AO)
Laboratory confirmation was made at the Sanitary Veterinary and Food Safety Institution Timis County (DSVSA).
The drugs used in the study respected the manufacturer’s administration indications.

**Tiamutin 45%** soluble granules (Ceva),
- in the concentrations of 0.006% (meaning dose of: 6 mg/kg.bw.) for T1 group
- and 0.008% (dose of: 8 mg/kg.bw.), for T2 group.

**Tiamutin 10%** oily injectable solution was administered profoundly I.M.
- at the dose of 8 mg/kg.bw (0.8 ml/10 kg.bw.)
Results and discussion

Presentation of individual weight evolutions for the **T1 group**
(dose: 6 mg.kg.bw.⁻¹)
Presentation of individual weight evolutions for **T2 group**
(dose: 8 mg.kg.bw.\(^{-1}\)).
Presentation of individual weight evolutions of **T3 group**
(dose: 8 mg.kg.bw.$^{-1}$)
Presentation of individual weight evolutions for **Control group**
Comparative economic developments (individual weight gain) and mortality on studied groups:

- **T1** = 101.5 g / day;
- **T2** = 172.8 g / day;
- **T3** = 79.1 g / day;
- **C** = 41.6 g / day
Swine dysentery caused by Brachyspira hyodysenteriae is a constant in swine rearing units in the recent years.

Injectable form administrations in treponemal swine dysentery are, obviously, more reduced, in comparison with orally administered soluble formulations.

In our study tiamulin fumarate as oral administration proved to be the most effective.
Conclusions

• The best results were recorded at a concentration of 0.06 mg/ml of drinking water administered for 5 days consecutively.

• In the therapy of treponemic dysentery single injectable forms are not recommendable; their effectiveness was considered poor average.

• It is recommended to extend the study for the case of preventively administered Tiamutin, as feed supplement in various concentrations.
Thank you for your attention!!!