EFFICACY OF TIAMULIN HYDROGEN FUMARATE (100 ppm) IN THE PROPHYLAXIS AND THERAPY OF SWINE DYSENTERY

S.Blagović*, A.Dujmić and J.Meyer

PLIVA, RESEARCH INSTITUT, 41ooo ZAGREB, I.L.Ribara 89, YOUGOSLAVIA

Tiamulin hydrogen fumarate (Tiamulin) has been reported to have a potent effect against Treponema hyodysenteriae and against some other microorganisms which have a synergic effect in the pathogenesis of swine dysentery. Tiamulin also has an exceptionally good effect against Mycoplasma (2,3,4,5). Our investigations proved that tiamulin administered in feed at 2oo ppm or orally in a dose of 9 mg per 1 kg body weight cures dysentery within 7 to 48 hours without relapse till the end of fattening period (shortest observation time 3o days).(1).

The intention of our further studies was to investigate, under production conditions on the farm, the efficacy of a lower, economically considerably more favourable level of 1oo ppm.

Materials and methods

The trials were carried out on two farms where swine dysentery was permanently present. Clinical diagnosis was confirmed by isolation and cultivation of Treponema hyodysenteriae and pathomorphologic finding.

The first trial comprised 866 clinically healthy piglets, weighing on an average 3o kg, which received in feed 1oo ppm of tiamulin for 5 days. There was no case of dysentery till the end of the first fattening stage i. e. till the average body weight of 55 kg. Effects of the prevention were manifested in the second fattening stage from 55 kg to final weight of cca 1oo kg. For comparison purposes a similar group was taken as a control with approximately the same number of piglets in an identical piggery which were fed rations containing ronidazol (Table 1).

The second trial comprised 46o pigs of 6o kg body weight on an average, out of which 18 pigs were ill with dysentery, were cured with 1oo ppm of tiamulin added in feed for 5 days. Another herd of 46o pigs of equal average body weight in which 1% animals were ill with dysentery, served as a control. That herd was treated with other specific drugs against dysentery (Table 2).

Results and discusion

Table 1.
Preventive effect of 1oo ppm of tiamlin in feed

	Group Test	Control
Initial number of pigs	866	877
Average weight(kg)	57	55
Mortalities	2	7
Culls	7	8
Selected for breeding	19	31
Fatteners	838	831
Average daily gain(g)	787	727
Fattening period (days)	58	67
Suspected of and ill with dysentery	9/1,43%/	112/12,78%/
Diarrhoea of other etiology	46/5,31%/	42/4,78%/
Other diseases	16/1,84%/	29/3,30%

As it can be seen piglets treated with tiamulin at the beginning of fattening period showed at the end of it a higher average daily gain and significantly smaller number of animals affected with dysentery. Test group reached market weight 9 days before the control group.

Animals suspected of and ill with dysentery were succesfully cured with a single oral dose of 9 mg of tiamlin per kg bw.

Table 2.
Effect of 1oo ppm of tiamulin in feed in the therapy of dysentery

	Group Test	Control
Number of pigs	46o	46o
Number of pigs ill with dysentery	18	1%
Duration of therapy (days)	5	5
New cases after therapy (28-day-observation period)	Ø	227

Note: Seven non-specific cases of diarrhoea have been reported in the test group treated with tiamulin between the 15th and 25th day after therapy.

Conclusions

Prophylactic use of tiamulin mixed in feed at 1oo ppm level for 5 days on the infected farm at the beginning of fattening period exerted a favourable effect which in the final stage of fattening was manifested by a significantly reduced number of pigs affected with dysentery in the test group compared to the control (9:112), increased average daily gain by 6o g and by a shorter fatte ning period for 9 days.

Therapeutic use of tiamulin at 1oo ppm level in an affected herd caused disappearance of symptoms of dysentery, while no case of relapse was reported throughout the 28-day-observation period. In the same period 3 to 19 new cases of dysentery emerged daily in the control group.

Selected references

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