TIAMULIN* BY INJECTION FOR THE TREATMENT OF SWINE PNEUMONIA IN THE PHILIPPINES

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To a swine practitioner, respiratory infections are becoming a more common observation and a problematic syndrome. Within this syndrome complex is mycoplasmal pneumonia of swine (MPS) which is regarded as the most common and widespread primary disease in swine-producing countries in the world. Contributory to the situation is the intensification of swine production into confinement rearing which provides a regular supply of highly susceptible animals. Moreover, the immediate climatic and physical environments together with management practices ensure a greater exposure potential of the animals to the cause of the disease (Mycoplasma hyopneumoniae). Although greater efforts have been expended in the correction of the contributory factors of infection, intensive production has partly offset these efforts and the consequential presence of mycoplasmal pneumonia in a herd has set limitations to the efficiency of swine production.

The Philippines shares with the rest of the swine-producing countries of the world the incidence of this disease. Although self-sufficient in its pork requirements for its population, the country must develop and increase pork production to support its increasing human population. Further development of its swine industry will depend much on the control of economically important diseases among which is mycoplasmal pneumonia.

The treatment of MPS may be done in three ways: periodic or continual group therapy, selected group therapy, and individual therapy[1]. The success of treatment depends largely on the efficacy of the drug being used in any one or a combination of these approaches. Among the drugs recently introduced to treat MPS is tiamulin hydrogen fumarate (Dynamutilin*). Laboratory and field trials using this drug in its oral form have confirmed its efficacy in the treatment and control of this disease[2-3]. Individual therapy using the parenteral form of the drug has not been annotated in veterinary medical literature.

This study was conducted to determine the effect of injectable tiamulin on MPS on a farm with a history of the disease. Clinical records and experience confirm the presence of the disease on the farm which appears with predictable occurrence in June-July and December-January of each year. This study was conducted during the latter season. The farm has a total population of 4,500 pigs and engaged in a sow-farrowing and fattening operation involving Largewhite-Landrace breeds. About 2% of the population was involved in an outbreak of mycoplasmal pneumonia mostly occurring in 10-16 week-old fatteners despite preventive levels of antibiotics in the feeds. Response to the latter was generally not satisfactory probably due to a high infective pressure from the environment together with intensive production systems and climatic stresses.

Tiamulin was tested at 10 mg/kg and 12.5 mg/kg bodyweight injected intramuscularly daily for 5 days. Two groups of 12 pigs per group were used as test animals. All were showing clinical signs typical of enzootic pneumonia in various degrees of severity. Treatment I (10 mg/kg bodyweight) has animals with weight conditions as follows: 25% normal, 25% thin, and 50% debilitated. Treatment II (12.5 mg/kg bodyweight) has 15% normal, 10% thin, and 75% debilitated. The severity of infection was judged as mild (clinical signs are minimal); moderate (clinical signs are definitely apparent and severe enough to threaten the life of some of the animals in the group); and severe (clinical signs are a definite threat to the life of the animal). Each group had equal numbers of males and females (6:6) of similar breed (Largewhite-Landrace crosses) and age (15-16 weeks old). Average group weights were 33.50 kg and 32.95 kg. for Treatments I and II, respectively. Two pigs in each group were sacrificed and necropsied to confirm the presence of enzootic pneumonia prior to the initiation of treatment. Pneumonic lessions were found in all 4 pigs. These were in the form of sharply demarcated and bilateral consolidation of lung tissue involving the apical and cardiac lobes, mild to moderate hydrothorax, and pleuritis.

Post-treatment clinical observations were made daily for 28 days following the initiation of treatment. These included body temperature, coughing, ocular and nasal discharges, feed consumption and bodyweight at days 1, 14 & 28. An assessmentof the over-all clinical response was made.

No mortality occurred during the course of treatment and at the termination of the trials, all animals were completely recovered. Of the 10 pigs treated with tiamulin at 10 mg/kg bodyweight, the response to treatment was rated excellent in eight and good in two. An excellent rating required the remission of all clinical signs by day 5, normal or improved growth, no mortality and no relapses by day 14. A good rating required noticeable clinical improvement by day 5 and remission of all clinical signs by day 7, no mortality and no relapses by day 14.

Ten pigs treated with 12.5 mg/kg bodyweight showed similar responses of recovery. The favorable response to treatment was rated excellent in six and good in four. Of the two dosage levels, it should be noted that the higher dosage level of 12.5 mg/kg bodyweight was used in animals which were clinically more severely affected.

It is concluded from these results that tiamulin hydrogen fumarate in its injectable form is a very effective drug for MPS. Although 10 mg/kg is the optimum intramuscular dose, a higher level of 12.5 mg/kg may be indicated for more seriously involved animals.

Selected references: 1. Muirhead, M. M.: Respiratory Diseases of Pigs. Brit. Vet. Jour. 135. 497-508 (1979); 2. Schuller, W. G. Laber and H. Walzl: Chemotherapeutische Untersuchungen mit 81.723 hfu (Tiamulin) Einem Neuen Pleuromutilin-Derivat, an Experimentallen Mycoplasma-Pneumonie des Schweines. Dtsch. Tierarztl. Wschr.; 3. Glaweschnig, E. and K. Steininger: Therapy of Enzootic Pneumonia with Tiamulin (81.723 hfu) Under Field Conditions. Proc. Int. Pig Vet. Soc. Congress, PP2, Ames, Iowa, 1976.

*Dynamutilin Injection, E.R. Squibb &Sons, Inc.