SALINOMYCIN TOXICITY IN TURKEY – A CASE STUDY

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Salinomycin is a polyether monocarboxylic acid antibiotic with special cyclic structure and wide spectrum activity. It is used in feed of chicken for prevention of Coccidiosis caused by *Eimeria acervulina*, *E. mitis*, *E. necatrix*, *E. maxima*, *E. tenella* and *E. brunetti* at levels of 60 ppm. The mode of action of salinomycin is by its high affinity with earth metal ion such as Potassium, Sodium, Rubium etc., which enhances the permanent ability of necessary cation passing through the ether barrier in the membrane, resulting in change in the ion balance of the coccid and death of it. Generally salinomycin is compatible with bambermycin, lincomycin, virginiamycin and BMD. But when salinomycin is added in turkey diets it causes toxic effects.

About 20% of the turkey poult in the age group of 12-16 weeks in a farm with 500 turkeys strength suddenly showed the symptoms like dyspnoea, drowsiness, sternal recumbancy, inability to stand, stiffness, weakness and about 5% of the affected poult died when accidentally fed with broiler diet. (Van Assen.,2006 and Lagas et.al.,2008). When those birds were subjected to post mortem examination, no significant gross lesions were found. Subsequently, the birds in the age group of 16-20 weeks also became recumbent with 3% mortality in the affected birds. However, the dead birds showed no significant lesions. Hence the feed was suspected for deficiency of micro nutrients like calcium, phosphorus and vitamins. So, the birds were provided with extra calcium, phosphorus and trace minerals in feed and vitamin B complex and Vitamin ADEC in water. There was no recovery in the affected birds and the leg weakness condition increased in both the age groups. Subsequently six male breeders in the age group of around 52 weeks died suddenly without any symptoms of leg weakness. At post mortem examination, there was no significant lesion. Histological lesions were similar to the findings of Andreasen and Schleifer (1995). The histopathological studies on skeletal muscles showed degeneration and necrosis giving a suspicion of ionophore toxicosis. Then the feed was thoroughly analysed and found that salinomycin was accidentally added as anti coccidial drug at 50 ppm level in broiler diet (Potter et.al.,1986 and Halvorson et.al.,1982). Similar results of 50% mortality and 45% suppression in weight gain was observed by Mathis(1995) when 16 week old tom turkeys were fed with feed containing 66 ppm of salinomycin. So all the old feed were withdrawn and new feed without salinomycin was introduced to all the age group of turkey with additional supplementation of vitamin B complex and Vitamin ADEC in water for next one week. Thereafter the leg weakness condition subsided and 70% of the affected birds (leg weakness) became normal in due course of 7-10 days. So it is advised that caution should be exercised to avoid salinomycin contamination of turkey diets.

REFERENCES


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