

TRICHURIASIS IN PIGS

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Trichuriasis is usually considered to be innocuous exerting no serious threat to the health of Swine. Clare and Wille (1951) indicated the presence of *Trichuris* infestation in unthrifty hogs showing no other evidence of disease. They also felt that swine whipworm may cause heavy losses to the swine producer. These worms generally inhabit the caecum of the host and when present in large numbers they cause irritation resulting in diarrhoea. This is sometimes accompanied by passage of mucus and blood. There is remarkable weight loss and sometimes the formation of nodule in the caecal wall. The effects are likely to be severe in pigs in age groups of 2 to 6 months. (Powers et al. 1960).

Balcom & Tood (1960) reported that it is a herd disease as it has been recognized in its clinical state in Wisconsin Swine over the past decade. They also observed that mortalities were confined to young pigs and in some instances more than 2/3 of a crop succumbed. Each outbreak of course, has been a direct reflection of sanitation and management afforded on individual herd. The condition is progressive within a herd. In the beginning, the few initial mortalities along with poor growth seldom provokes the owner for any action. As the herd infection develops over a period of many weeks and sometimes months, growth failure becomes apparent. In most of the cases bloody diarrhoea appears and mortalities increase. On the basis of tentative diagnosis and treatment, the herd does not improve. Moreover, when the herd and its whipworm finally achieve a balance, the surviving pigs constitute an economic hazard because they seldom reach market weight at a profit.

The *Trichuris* species are generally known as "whipworms" having the anterior part of the body long and slender, while the posterior part much thicker. The hind end of the male is curled and there is one spicule surrounded by a protrusible sheath which is usually armed with fine cuticular spines. The vulva in female is situated at the beginning of the wider part of the body. The male is 30-50 mm long and the female 35-50 mm. The anterior portion forms about two thirds of the total length. The spicule is 2-3.35 mm long with a blunt tip. Its sheath is variable in shape as well as in the extent of its spinous armature. The eggs measure 50-60 by 21-25 μ (Lapage 1962). The life cycle is direct. The eggs of swine whipworm *Trichuris suis* which normally do not hatch outside the host, may remain infective for approximately 18 months when kept in water at room temperature. The embryonated eggs are very resistant to external environment and can survive for upto 6 years in old sties (Hill, 1957). The pigs acquire the infection by ingesting the eggs. Hatching occurs only after ingestion (Deo, 1960). The infective eggs produce mature adults in about 7 weeks after ingestion by pigs (Powers, 1960).

Diagnosis depends on detection in the faeces of the yellow oval eggs, which have a transparent plug at each end, and possibly finding adult worms which are 2 to

5 cm long and shaped characteristically like a whip, the anterior third being much thinner than the handle like posterior (Blood and Henderson, 1973).

In 1974-75, the malady occurred at AAI farm in Allahabad (India). About two dozen pigs started loose motions and lost weight. They were all in the age group of 2-3 months. A severe retardation in growth was observed in all of them but loss of appetite was not observed in any of them rather they were eating more. The feed was checked but it had nothing abnormal. The piglets were first treated with astringents but had no effect. The treatment with sulfonamides and antibiotics also failed.

When the faecal sample was examined microscopically, *Trichuris* eggs were seen in large numbers in every field revealing heavy infestation. All the pigs suffering were transferred to dry sties and all measures were taken to keep the place hygienic. Daily cleaning of the floor with phenyle was done. The feeding and watering was done separately to every piglet. Only one worker was allowed to enter in the sty for distribution of feed and water. He used to enter the sty only after putting his shoes in slaked lime kept at gates. The animals were given piperazine salts in feed but it also failed to save the animals from the malady.

In the last, two drugs n-butyle chloride and diphenylamine were tried per os. The animals were divided in two groups. N-butyle chloride at the dose rate of 1 ml per kg body weight was given to one group and diphenylamine was given at the rate of 3 g /5 kg body weight to another group. These two drugs worked very well. A second dosing of n-butyle chloride after an interval of one week was also required but diphenylamine made the faeces negative for *Trichuris* eggs in single dose treatment. Afterwards both the groups recovered and gained weights. None of the pigs, then died due to this malady.

Conclusions:

N-butyl chloride and diphenylamine were tried in clinical cases of trichuriasis. N-butyle chloride needed a second dosing after a week of the first where as diphenylamine had a curative effect in a single dose treatment. Astringents, sulphonomides and antibiotics failed to give any fruitful effect.

Selected references: Blood, D.C. and Henderson, J.A. (1973) IIIrd Ed. Veterinary Medicine, Balliere, Tindall and Cassel, London; Balcom, I.R. and Todd, A.C. (1962). *Vet. Med.* **57** : 798; Clare, E.E. and Wille, T. (1951). *J. Am. Vet. Med. Ass.*, **130**; 495; Deo, P.C. (1960) *Ind. J. Vet. Sci.* **30** : 139 & 165; Hill, C.H. (1957) *J. Parasit.* **43** : 104; Lapage, G. (1962) *Monning's Veterinary Helminthology and Entomology* Vth Ed. Balliere, Tindall and Cox, London; Powers, K.G. et al. (1960) *Am. J. Vet. Res.* **21** : 262.