

Abstract

Praziquantel is a drug of choice for the treatment of schistosomiasis caused by human species of the genus *Schistosoma*. The effect of the drug on avian schistosomes is not completely known. Monensin is a drug used for the treatment of coccidiosis, and its effect on avian schistosomes is unknown.

In the thesis, we studied the effect of these drugs on avian schistosome *Trichobilharzia regenti*. Under *in vitro* conditions, both drugs were effective after 6 hours of incubation. Praziquantel causes an extensive vacuolization of the whole body, while monensin treatment causes vacuolization of the anterior part of body. Higher concentration of praziquantel causes depolymerization of myofilaments and separation of surface membranes. Monensin did not impair muscles, but caused separation of tegumental layer from the basal membrane.

Schistosomula in ducks were not killed by the drugs under *in vivo* conditions, but the worms were damaged by the drugs. Praziquantel caused vacuolization of the tegument and separation of membranes from the surface. Only vacuolization of the tegument occurred in schistosomula from ducks treated with monensin. No damage to the muscles was observed in the case of both drugs. Histological evaluation of the nerve tissue showed that there is no difference between treated and control duck.

This study has helped to clarify the influence of both drugs on the early schistosomula of *T. regenti*, but there still remain unresolved questions in this issue, such as how drugs affect other stages of *T. regenti*. Therefore, further research could help answer these questions.