EFFICIENCY OF CONTROL OF BOVINE FASCIOLOSIS

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Objectives of study: The prevalence of fasciolosis in cattle in Switzerland is between 8.4 and 21.4 %. Several control measures, such as fasciolicide treatment or pasture management strategies have been described. This study compares an adjusted control strategy accounting for the specific epidemiological situation on farms and a group of comparable farms where poor or no control was implemented.

Materials and Methods: A total of 32 premises infected by Fasciola hepatica were visited in summer 1999 or 2000 and in summer 2004. The autochthonal parasite cycle was demonstrated based on coproscopy and the presence of F. hepatica DNA in the intermediate host Lymnaea truncatula (by quantitative real-time PCR). The farms were given recommendations for the control of fasciolosis based on the location of the snail habitats on the first visit. Of the 32 farms, 12 farms were recommended treatment of the animals with triclabendazole. For the remaining 20 farms a pasture rotation system was recommended. During the second visit of the farms they were divided into two compliance groups: Good and poor compliance. On both visits, faecal samples from five cows were collected and coproscopy was conducted. On the second visit, additionally, blood samples of all cattle were examined for antibodies against F. hepatica using a commercial test kit (ELISA Fascioliasis Serum and Milk Verification, Institut Pourquier, Montpellier). The outcome was assessed depending on the compliance to an integral control strategy compared to poor and no control at all.

Results: A total of 15 farmers had followed the control recommendations whilst the remaining 17 farmers had not implemented Fasciola-prophylaxis as recommended. On farms with inadequate Fasciola-prophylaxis the prevalence did not change. On the farms following the control recommendations the percentage of positive faecal samples decreased from 30.7 to 9.3 % (P = 0.003, c²). On the farms complying to the recommended control strategies, the mean seroprevalence in cattle was 21.4 %, on the farms with poor compliance 62.1 % (P < 0.001, c²). The results of the multivariate linear regression model confirmed that the decrease in seroprevalence was associated with good compliance.

Conclusions: Complying with the control recommendations appeared to significantly affect the presence of F. hepatica in the definite host.