

Augmentation of triclabendazole therapy with herbal extract in ovine fasciolosis

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Fasciola is a major parasite of sheep around Lake Hashenge that is claimed to cause serious destruction of liver and liver condemnation (more than 80%) which lead to loss of profit/market despite its potential nutritional and price value. Liver infected with *Fasciola* is hard and fibrotic and is not fit for human consumption regardless of its zoonotic potential. Triclabendazole is the drug of choice for treating fasciolosis but triclabendazole have no effect in the healing or regeneration capacity of the already damaged liver by the parasite unless augmented with other natural herbal preparations which make the damaged liver heal faster. Therefore, this project was designed to study the augmentation responses of herbal extract to triclabendazole therapy which was expected to facilitate the regeneration and healing process of the liver of sheep. A total of 12 naturally *Fasciola* infected sheep diagnosed with coprological examination were used in this study. The 12 naturally *Fasciola* infected sheep were grouped into three groups (G1=Experimental, treated with both triclabendazole and the herbal extract bolus; G2=Experimental, treated only with triclabendazole; and

G3=Control, not treated with either of the treatments) each containing 4 sheep. Herbal bolus were prepared at the College of Veterinary Medicine, Mekelle University and used for augmentation. Three months after the treatment sheep in all the three groups were coprological examined. The effect of augmentation was evaluated with liver function tests, gross pathology and histopathology. All the data were analyzed using STATA version-11.0 statistical software and P-value of 0.05 was considered a statistically significant difference for all analysis. Gross findings showed live *Fasciola* parasite and severe liver damage; irregular shaped and rough fibrotic liver; and liver with slight fibrosis and distended gall bladder in G3, G2 and G1, respectively. Liver function test results were higher in the control group (G3) compared to G1 and G2 ($P<0.05$). Microscopic findings of the tissue samples revealed liver with very severe necrotized area with diffused extensive fibrosis (cirrhosis) around the section of parasite in the middle; liver with moderate necrotized area with diffused extensive fibrosis (cirrhosis); and liver with fibrosis (cirrhosis) being degraded and regeneration of hepatocytes around it in G3, G2 and G1, respectively. Augmentation of triclabendazole with herbal extract improves the healing and regeneration capacity of *Fasciola* infested liver and thus it should be encouraged.

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