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Biochemical and electron microscopic changes induced by Giardia in experimentally infected lambs

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The present study was conducted to evaluate the effect of Giardia on the biochemical serum constituents of experimentally infected lambs, in addition to studying the observed alterations accompanying Giardia infection in the intestinal mucosa using scanning electron microscopy. Twenty lambs were allotted into two equal groups, Group A (infected) was orally inoculated by 104 Giardia cysts and Group B (non infected) was kept as control negative. The biochemical changes were assessed in both groups on 7th, 14th, 21th and 30th days post inoculation (dpi). The study disclosed that Giardia induced a significant drop in the levels of serum electrolytes (Cl, Na, K), blood glucose, different enzymes (lipase, amylase Alkaline phosphatase. Furthermore, the levels of urea, liver enzymes (alanine aminotransferase and aspartate aminotransferase), inflammatory marker (C-reactive protein) and oxidative stress markers malondialdehyde was elevated, but nitric oxide was declined from 21st day post infection till 30th day. The scanning electron microscopy of the intestinal mucosa of the infected lambs revealed a notable alteration which was fully explained. All the presented results interpret the pathophysiological effect of Giardia which adversely affects the health status of lambs.

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