INTESTINAL BACTERIAL TRANSLOCATION IN SCHISTOSOMIASIS MANSONI-INFECTED C57BL/6 MICE FED ON A HIGH-FAT DIET: INSIGHTS FROM FLUORESCENCE *IN SITU* HYBRIDIZATION (FISH)

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There is increasing evidence that the coexistence of schistosomiasis mansoni and obesity exacerbates liver, spleen, and intestinal damage by altering the architecture and physiology of these organs. Studies highlight the role of the intestinal microbiota in hepato-intestinal schistosomiasis, shedding light on the complex interactions between adult worms, intestinal microbiota, host immunity and the pathophysiology of infection in the acute and chronic phases. Therefore, we sought to understand this relationship using a model of diet-induced obesity. C57BL/6 male mice fed either a high-fat diet (HFD, 60% fat) or a standard diet (10% fat) for 13 weeks were infected with 100 *Schistosoma m*ansoni cercariae (BH strain). Mice were divided into four groups: USC (uninfected, standard diet), UHFC (uninfected, high fat diet), ISC (infected, standard diet) and IHFC (infected, high fat diet). Obesity development was assessed by lipid profiles, glucose levels, oral glucose tolerance, body mass and adiposity. For fluorescence in situ hybridization (FISH), mouse jejunum sections were collected and fixed in 10% buffered formalin for 48 hours. FISH was performed on each slide using conditions and buffers with 30% formamide in the hybridization buffer and probes for eubacteria. IHFC showed a reduction in lipid profile, an increase in HDL-c and better oral glucose tolerance and reduction in body mass. The results obtained by FISH indicate the occurrence of bacterial translocation in the infected groups, especially in those subjected to the high fat diet. This process is known to occur due to increased permeability of the intestinal mucosa stimulated by HFD, increased bacterial growth, a weakened immune system and lesions caused by *S. mansoni* eggs during their passage into the intestinal lumen. Altogether findings suggest that concurrent obesity and acute schistosomiasis have a significant impact on the architecture of the jejunum in C57BL/6 mice.

Keywords: *Schistosoma mansoni*. Obesity. Gut microbiota.

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