Hepatic tissue remodeling in swiss webster mice with acute schistosomiasis and subjected to a hyperlipidic diet

THAINÁ DE MELO[1], ISADORA DO MONTE SILVEIRA BRUNO[1], BRUNO MORAES DA SILVA[1], LUCIANA BRANDÃO BEZERRA[1], JOSÉ ROBERTO MACHADO E SILVA[1], RENATA HEISLER NEVES[1].

[1] State University of Rio de Janeiro, Rio de Janeiro, Brazil.

Dyslipidemia and schistosomiasis are significant public health concerns, particularly in endemic regions. This study investigated liver tissue remodeling in acute experimental schistosomiasis and diet-induced dyslipidemia in female Swiss Webster mice. The mice were fed either a high-fat diet (HFD) or a standard diet (SD) for 29 weeks. At week 20, the animals were subcutaneously infected with 100 *Schistosoma mansoni* cercariae (BH strain). After 9 weeks of infection, the mice were euthanized, and blood samples were collected for biochemical analysis. Additionally, peritoneal lavage was performed to evaluate cytokine profiles. Liver tissues were collected, fixed, processed, and stained with Hematoxylin and Eosin, Giemsa, Gomori's Reticulin, and Picrosirius Red for histopathological, stereological, morphometric, and collagen granuloma analyses. Biochemical tests confirmed dyslipidemia in the HFD-fed mice, although lipid and glucose levels were notably lower in the infected animals. Peritoneal cells exhibited a proinflammatory immune response, and liver tissues displayed a highly inflamed architectural morphology. Morphometric analysis of centrilobular and hepatic veins revealed that both HFD and schistosomiasis altered vessel morphology. The findings suggest that diet-induced dyslipidemia interferes with certain aspects of acute experimental schistosomiasis, contributing to immune cytokine profile modulated by macrophages, liver tissue disorganization, and remodeling of the morphometric parameters of centrilobular and hepatic veins.

Funding: CAPES

Keywords: Schistosomiasis, Hypercholesterolemia, Hepatic Tissue.