ADIPOSE TISSUE REMODELING IN SCHISTOSOMIASIS MANSONI-INFECTED C57BL/6 MICE WITH METABOLIC DISORDER

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Schistosomiasis mansoni is a neglected disease affecting several countries, with approximately 700 million people currently living in areas at risk of infection. Changes in the nutritional profile of the population are reflected in an increase in metabolic disorders that may influence the course of human schistosomiasis. In this study, we sought to evaluate adipose tissue remodeling in a diet-induced obesity model with concomitant schistosomiasis mansoni. C57BL/6 male mice fed either a high-fat diet (60% fat) or a standard diet (10% fat) for 13 weeks were infected with 100 *Schistosoma m*ansoni cercariae (BH strain). The mice were then divided into four groups: USC (uninfected fed standard diet), UHFC (uninfected fed high fat diet), ISC (infected fed standard diet) and IHFC (infected fed high fat diet). The development of obesity was assessed by blood lipid profile, including TC (total cholesterol), TG (triglyceride levels), LDL-C (low-density lipoprotein cholesterol), HDL-C (high-density lipoprotein cholesterol) and VLDL-C (very low-density lipoprotein cholesterol) and glucose concentrations, OGTT (oral glucose tolerance test), body mass and adiposity index. Samples of visceral adipose tissue were fixed in 10% formalin, then processed and embedded in paraffin, and sectioned at 5 µm, deparaffinized and stained with hematoxylin and eosin (H&E). Adipose tissue showed structural changes due to the inflammatory process of infection. The mean cross-sectional area and diameter of adipocytes were greater in animals fed a high-fat diet, whether infected or not. We conclude that the relationship between schistosomiasis mansoni and the high-fat diet promotes significant changes in several physiological parameters and in adipose tissue remodeling.

Keywords: Schistosomiasis. Metabolic disorder. Obesity.

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