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Circulating adhesion molecules in patients with different clinical forms of S. mansoni infection

Roba M Talaat [1], Azza El-Bassiouny, Ahmed Osman, Magdy Yossif, Ragia Charmy, Maged Al-Sherbiny

Genetic Engineering and Biotechnology Research Institute, Minofiya University, Egypt.

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Elucidating the mechanisms that regulate the severity of schistosomiasis has been a major research objective over the past several years. In this study, morbidity of S. mansoni infection was assessed using an ultrasonographic staging system of periportal fibrosis of the liver. Sera of S. mansoni infected patients with different clinical forms of the disease were assayed for the presence of intercellular adhesion molecule-1 (ICAM-1), soluble endothelial cell adhesion molecule-1 (sE-selectin), leukocyte adhesion molecule-1 (sL-selectin) and granule membrane protein-140 (P-selectin). Association between serum levels of adhesion molecules and ultrasonographic data was evaluated. Fifty-one subjects with pure hepatic schistosomiasis having ultrasonographic assessment of periportal fibrosis (PPF) were grouped according to the thickness of their portal tracts: simple intestinal =<3mm, grade I=3-5mm, grade II=>5-7mm and grade III=>7mm. Greater diameter of portal vein and larger spleen size were associated with increasing the thickness of portal tract. All groups had elevated levels of sICAM-1 compared with normal controls. Patients in grade III had significantly higher levels of serum sICAM-1 than those in other grades of infection. The sE- and sL-selectin were comparable in the sera of all patient groups. sP-selectin was significantly elevated in the sera of grade II patients compared with other patients of various clinical groups. Positive correlation was recorded between sICAM-1 level and degree of PPF, but not with other adhesion molecules. These data suggested that, the main criteria of diagnosis of S. mansoni infection using ultrasonography include periportal fibrosis, hypertrophy of left hepatic lobe, widening of the portal veins and splenomegaly. sICAM-1 may participate in the pathology associated with schistosomiasis infection. It could be employed as a potential morbidity marker in schistosomiasis mansoni infection.