



***Spirulina platensis*, reduced liver and kidney injuries induced by Sodium arsenite**

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Abstract : *Spirulina platensis*, a blue-green alga, has vastly therapeutic properties and it is used as food supplement. This study aims to evaluate the protective effect of *Spirulina platensis* against arsenic hepatorenal toxicity based on its antioxidant properties, free-radical scavenger and immunological properties. Oral administration of sodium arsenite (6.3mg/Kg, p.o BW) to rats for eight weeks led to a significant increase in serum monocyte chemoattractant protein-1 (MCP-1), tumor necrosis factor alpha (TNF- α), interleukin 6 (IL-6), cholesterol, triglycerides, liver (AST, ALT, and ALP), and kidney function parameters (urea, uric acid, and creatinine) except serum protein level which was significantly reduced. In addition, arsenic-induced oxidative stress and lipid peroxidation process as evidenced by elevation of malondialdehyde (MDA) and decline in the activities of hepatic and renal catalase (CAT), superoxide dismutase (SOD) enzymes, and glutathione (GSH) levels in which reflected on the final body and liver weights. Hepatorenal pathological changes were observed in the arsenic group. Treatment of rats with *spirulina platensis* (300mg/kg, p.o BW) mitigates indices of atherosclerosis, hepato-renal oxidative stress and pathological changes of liver and kidney induced by arsenic. These results support the *spirulina* protective effect of by which it lessens several factors involved in the progression of atherosclerosis and liver and kidney toxicity.

Keywords : *Spirulina platensis*, Sodium arsenite, Atherosclerosis, Kidney toxicity, Livertoxicity.

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