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Nutritive and anti-oxidative efficacies of *Bellamya bengalensis* (aqueous extract) prevent hepatic tissue and DNA damage in arsenic intoxicated rats

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In an attempt to develop folk-traditional medicine, edible snails (*Bellamya bengalensis*) were used to purify blood, boost immune system and prevent conjunctivitis, arthritics and to treat liver problems. To evaluate the hepato-protective activity of the snail (*Bellamya bengalensis*) flesh extract was used to screen the effect on arsenic-induced hepatic toxicity in female rat of Wistar strain. Live adult *Bellamya bengalensis* was collected from the pond at the region of Midnapur, West Bengal. We investigate the efficacy of supplementation of *Bellamya bengalensis* extract (BBE) (40% w/v) (100 mg tissue/100 g b.w.) with NaAsO₂ (0.6 ppm)/100 g b.w. for 28 days to rats with respect to control albino rats. After 28 days all the animals were sacrificed to collect the blood and liver tissue. Necrotic and apoptotic damages and their BBE-protection are shown in DNA-fragmentation, comet-assay and histo-architecture (hemato-xylins and eosin and periodic acid-Schiff staining) results. Only arsenic exposure decreased hepatic anti-oxidant parameters superoxide dismutase, catalase activities, xanthine oxidase, lacto-peroxidase activity and level of soluble thiol with a concomitant increase in malon-dialdehyde. Alteration of serum necrotic marker lactate dehydrogenase indicates the impairment may be occurring at transcription and or cellular signal transduction level. BBE strongly prevented arsenic induced elevation of SGOT, SGPT, ALP, total protein level in male Wistar rats. The present investigation offers strong evidence for the hepato-protective and antioxidative efficiencies of BBE against oxidative stress induced by arsenic.

Biography

Sk Sajed Ali is currently a PhD Student working in the Post Graduate Department of Biochemistry, OIST, Vidyasagar University. He is a Senior Research Fellow under Moulana Azad National Fellowship (UGC).

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