Materials Science-2013

OMICS Group Conferences
Accelerating Scientific Discovery

2nd International Conference and Exhibition on
Materials Science & Engineering

October 7-9, 2013 Hampton Inn Tropicana, Las Vegas, USA

Hepatic and renal toxicity of cadmium in protein malnourished rats

Syed Saleem Husain

Jazan University, KSA

Abstract

To evaluate cadmium toxicity (50 ppm in drinking water) in protein malnourished (8%) and normal protein (21%) diet groups, behavioral and biochemical estimations were carried out. Cd exposure led to marked elevation in alkaline phosphatase, acid phosphatase , glutamic pyruvic transferase, glutamic oxaloacetic acid transferase with significant increase in protein malnourished group ($p<0.005$) Same trend of results was noted in urinary concentration of alpha amino acid, albumin, total protein and glucose. Results were more significant ($p<0.001$) in malnourished animals. However, hepatic and renal enzymes showed depletion in all groups. There was marked increase in serum enzymes GOT, GPT, alkaline phosphatase and acid phosphatase in low protein diet + Cd group ($p<0.001$). In behavioral studies, a significant delay was noted in cliff aversion, swimming behavior, ascending wire mesh and beam balance ability in Cd exposed dams of both diet groups with more marked effect in malnourished group. The present findings demonstrate the vulnerability for toxic effects of Cd exposure under protein malnourishment.