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Mitigation of Acrylamide induced toxicity by quercetin in rats

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Statement of the Problem: Acrylamide (AA), a neurotoxicant is produced in carbohydrate rich food products cooked at high temperature. Quercetin (QE) is a flavonoid, found in plants with medicinal properties. The present study was designed to investigate protective effects of QE against AA induced toxicity in rats.

Methodology & Theoretical Orientation: Female rats were exposed to AA at dose of 19.13 mg/kg p.o. for 28 days followed by the therapy of QE at the dose of 20 mg/kg p.o. for 07 days.

Findings: AA intoxication caused a significant elevation in serum transaminases, urea, uric acid, creatinine, lipid profile, bilirubin and decline in blood ALAD, haemoglobin, AChE activity in brain, GR and GPx in liver, kidney and brain. AA exposure depicts the alterations in AH and AND enzymatic activity, MLPO, inflammatory cytokines, DNA damage and histopathology. Treatment with QE significantly recouped all the altered variables towards normal.

Conclusion & Significance: Thus, it can be concluded that QE exhibits antioxidant property against AA mediated cellular insult.

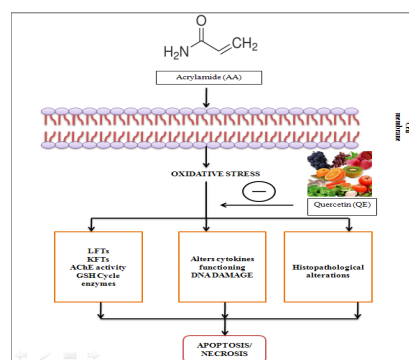


Figure (1): Showing protective effect of quercetin against Acrylamide toxicity.

Biography

Chhavi Uthra is pursuing her PhD (Zoology) at School of Studies, Jiwaji University, Gwalior. She was awarded with JRF and SRF (UGC Meritorious Fellowship), New Delhi. She is working with polyphenols against Acrylamide intoxication. Her areas of research interest are Pharmacology, Toxicology and Hepatoprotection.

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