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Effect of *Mucuna pruriens* seed extract on selected biochemical and hormonal markers in male albino rats

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Statement of the Problem: Because of increasing side effects of synthetic medicines, the scientific research is being diverted toward the discovery of some better alternatives in pharmaceutical preparations from natural sources. The aim of current research work was to study the effect of *Mucuna pruriens* (MP) seed extract on liver enzymes, serum proteins and reproductive hormone levels in male albino rats.

Methodology & Theoretical Orientation: Seeds extract of *M. pruriens* was prepared in methanolic solvent and the potential effect was evaluated by administering into male albino rats for 42 days. The rats were divided into six groups of four rats in each group; as control (normal saline), Carbon tetrachloride injected (0.5 mL 20% CCl₄/Kg bw twice a week), Testosterone treated (0.5 mL 20% CCl₄ + 2.5 mg testosterone/Kg bw twice a week) and MP-treated A, B & C (0.5 mL 20% CCl₄ twice a week + 50, 100 & 200 mg extract/Kg bw daily, respectively) groups. Body, testis and relative testis weight of male rats were recorded. Liver enzymes and serum proteins were measured by photometric method using commercially available assay kits. Serum testosterone was determined by ELISA kit method. Histological changes in liver and testicular sections were observed through

microscopy by H & E staining.

Findings: Significant ($p < 0.05$) increase in body, testis and relative testis weight was observed in extract treated rats compared to normal and CCl₄ intoxicated rats. Significant ($p < 0.05$) dose dependent improvement in ALT and AST activity was observed extract treated rats while not in ALP activity compared to control and CCl₄ treated rats. Serum proteins particularly albumin concentration vary significantly ($p < 0.05$) in extract treated rats. Significant ($p < 0.05$) increase in serum testosterone level was also found in rats treated with testosterone and *Mucuna* seeds extract. Serious damage to liver cells (hepatocytes) and testicular histology in the CCl₄ intoxicated rats was observed, while an improvement was found in testosterone and extract treated rats.

Conclusion & Significance: The study concluded that MP seeds extract have therapeutic potential to revert the toxic effect of CCl₄ bringing the biochemical and histological alterations toward normal. MP seeds extract may provide potential therapeutic agents to be used as medicines for various ailments.

Biography

Muhammad Riaz has PhD degree in Biochemistry from University of Agriculture, Faisalabad, Pakistan and completed his six months research training at University of Glasgow, Scotland, UK. He is working as Lecturer, Department of Allied Health Sciences, Sargodha Medical College, University of Sargodha, Pakistan. He has published more than 15 papers in reputed journals. He participated and presented research papers in international conferences as oral and poster presentation.

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