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Poster Presentations

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Protective effect of Sophora pachycarpa root extract on testicular histopathology and sex hormones level in acid in carbon tetrachloride-intoxicated in male rats

Banan Khojasteh SM[1], Javanmard Khameneh R[2], Hoursfand M[2], Dehghan Gh[1], Heidari R[2], Iranshahi M[3].

1.Department of Animal Biology, Faculty of Natural Sciences, University of Tabriz, Tabriz, Iran.

2.Department of Biology, Faculty of Sciences, University of Urmia, Urmia, Iran.

3.Department of Pharmacognosy, Faculty of Pharmacy, Mashhad University of Medical Sciences, Mashhad, Iran.

Email: Javanmard_96@mihanmail.ir

Background: Carbon tetrachloride (CCl4) is an industrial solvent that causes liver, kidneys, lungs, testicular and brain damage as well as in blood diseases by generating free radicals. Alterations in the spermatogenic cycle and degeneration in seminiferous tubules has been induced with CCl4 in rat. Previous studies on the chemical composition of Sophora pachycarpa (S.pachycarpa) have shown the presence of antioxidant compounds such as flavonoids.

Objective: The purpose of this study was to investigate the protective effects of S.pachycarpa roots extracts on testicular histopathology and serum level of sex hormones in carbon tetrachloride-intoxicated in male rats.

Materials and Methods: Thirty six male wistar rats (195-200 g) were selected and randomly divided into 6 groups (n = 6): pre-treatment groups I, II, III received S.pachycarpa extract at doses 50 mg/kg/day, 100 mg/kg/day and 250 mg/kg/day by gavage for 21 days prior to intraperitoneal injection of CCl4 500 µl/kg on 21st day, control group, CCl4 group received 500 µl/kg CCl4 on the 21st day, post-treatment group received extract at doses 100 mg/kg/day for 10 day at 12 h after CCl4 250 µl/kg injection. At the end of the treatment, blood was collected by cardiac puncture from all of the animals and serum levels of Follicle Stimulating Hormone, Luteinizing Hormone and Testosterone were assessed, also the testis tissues were harvested for histological examination.

Results: Serum levels of testosterone and follicle stimulating hormone were significantly increased in serum of pre-treatment group III and serum level of luteinizing hormone in serum of pre-treatment group III compared to CCl4 was significantly increased ($p < 0.05$). treatment of S.pachycarpa extract (250 mg/kg) showed noticeable improvement in histopathalogical changes induced by CCl4 in testis sections.

Conclusion: From the results it is suggested that S.pachycarpa extract can partly ameliorate toxic effects of CCl4 in male reproductive system, possibly through antioxidant effects of its bioactive compounds.

Key words: *Sophora pachycarpa, Carbon tetrachloride, Testis, Sex hormones, Male rat.*

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