

Summary of the MSc thesis No , Faculty of Veterinary Medicine, Urmia University

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Author: Hadi Rahbari Yengejeh

Title of theses: Effects of quercetin on renal toxicity induced with clothianidin (CTD) in Rat: Biochemical evaluation

Summary:

Abstract

This study was carried out to determine the biochemical effects of quercetin on rat renal toxicity during exposure to clothianidin. thirty-five male Wistar rats were divided into six groups as follows: control 1 (NS), control 2 (DMSO), CTD (20 mg/kg/IP) every 3 days, CTD + quercetin (2.5mg/kg/IP), CTD + quercetin (5mg/kg/IP), CTD + quercetin (10 mg/kg/IP) for 21 days. Serum levels of Urea, Creatinin and total protein were measured by an automatic biochemical analyzer using commercial kits. Malondialdehyde, total antioxidant capacity were measured in homogeneous kidney samples of animals using commercial kits. There was a statistically significant change in TAC values in different groups ($P > 0.05$). There was a significant difference between the groups in MDA values ($P > 0.05$). A significant increase in urea and creatinine were observed in the CTD group compared the control groups and a significant decrease was observed in the CTD+quercetin (10 mg/kg/daily) group in comparison with the clothianidin group ($P < 0.05$). Also, there was no significant change in serum total protein between treatment groups ($P < 0.05$). These results indicated that quercetin at 10 mg/kg can partly prevent the renal injury induced by clothianidin.

Key words: Neonicotinoid, Biochemical evaluation, Antioxidants, kidney, Rat