

In the present investigation, an attempt has been made to examine the effect of phenolic extract of tubers of *Cyperus rotundus* and taurine compound against isoproterenol – induced myocardial infarction in female rats. The work involved the following studies : Analytical study: It involved extraction and identification of phenolic content of tubers of *Cyperus rotundus*. The UV –Vis. spectra and high performance liquid chromatography of phenolic extract are proved the presence of (Tannic acid, Rutin, p- Coumaric acid, Campherol, Catechin, Gallic acid) in the extract . Biochemical study: Myocardial infarction was induced by injected of isoproterenol hydrochloride (85 mg/kg) to rats at an interval of 24 h for two days. We used (60) of the female rats (*Rattus norvegicus*) which were divided into 10 groups, each group contain of 6 rats. Group(1) received distill water as control group, group(2): ISO group; animals were injected I.P. with (85 mg/kg) of isoproterenol hydrochloride (ISO), twice an interval of 24 h, i.e., on 22 th and 23 th day), the three and four groups were administrated orally with (15 and 30mg/kg) phenolic extract of tubers of *Cyperus rotundus* respectively once daily for 21 days, the fifth and sixth groups were injected (100 and 200 mg/kg) of taurine respectively once daily for 21 day, the seventh and eighth groups were pretreated with phenolic extract of tubers of *Cyperus rotundus* orally (15 and 30mg/kg) respectively, once daily for 21day, then injected I.P. with ~ XV ~ (85mg/kg) ISO, twice an interval of 24 h , i. e ., on 22 th and 23 th day, the ninth and tenth groups were injected with taurine (100 and 200 mg/kg) respectively, once daily for 21 day, then injected I.P. with (85mg/kg) of ISO, twice an interval of 24 h, i. e., on 22 th and 23 th day. The results showed a significant increase ($p \leq 0.05$) in the concentration of serum (Troponin- I, LDH, CPK, ALT, AST, MDA, Cp, uric acid, TC, TG, VLDL, LDL and atherogenic index) in group (2) in comparison with group (1), treatment with phenolic extract of tubers of *Cyperus rotundus* at dose (15, 30mg /kg) for 21 days, caused a significant decrease ($p \leq 0.05$) in the concentration of serum (Troponin-I, LDH, CPK, ALT, AST, MDA, Cp, uric acid, TC, TG, VLDL, LDL and atherogenic index) in groups (7 and 8). Treatment with taurine at dose (100,200 mg /kg) for 21 days, caused a significant decrease ($p \leq 0.05$) in the concentration of serum (Troponin-I, LDH, CPK, ALT, AST, MDA, Cp, uric acid, TC, TG, VLDL, LDL and atherogenic index) in groups (9 and 10) in comparison with group (1). Results indicated a significant increase ($p \leq 0.05$) in the concentration of tissue MDA in group (2) in comparison with group (1), treatment with phenolic extract of tubers of *Cyperus rotundus* at dose (15, 30mg /kg) for 21 days, caused a significant decrease ($p \leq 0.05$) in the concentration of tissue MDA in groups (7 and 8) in comparison with group (2). There was a significant decrease tissue MDA ($p \leq 0.05$) in groups (9 and 10) in comparison with group (2). There was a significant decrease ($p \leq 0.05$) in the concentration of serum Alb and GSH in group (2) in comparison with group (1), treatment with phenolic extract of tubers of *Cyperus rotundus* at dose (15, 30mg /kg) for 21 days, caused a significant increase ($p \leq 0.05$) in the concentration of serum Alb and GSH in groups (7 and 8) in comparison with group (2). ~ XVI ~ Also, there was a significant increase ($p \leq 0.05$) in the concentration of serum Alb and GSH in groups (9 and 10) in comparison with group (2). Results indicated a significant decrease ($p \leq 0.05$) in the concentration of tissue GSH in group (2) in comparison with group (1), treatment with phenolic extract of tubers of *Cyperus rotundus* at dose (15, 30mg /kg) for 21 days, caused a significant decrease ($p \leq 0.05$) in the concentration of tissue GSH in groups (7 and 8) in comparison with group (2). GSH decreased significantly ($p \leq 0.05$) in groups (9 and 10) in comparison with group (2) . Histopathological Study: Histopathological studies showed that animals, treatment with ISO caused heart damage including severe necrosis, which was also accompanied by congestion and accumulation of inflammatory cells. In contrast, cardiomyocytes necrosis and congestion appeared less marked in phenolic extract and taurine

treated rat. Degenerative changes in various degrees were observed in microscopic examination of heart in animal group treated with ISO to induced MI and heart damage. In this group, showed a large ventricle area of degenerated, vacuolated myocardial cell associated with infiltration of mononuclear cell and myocardial necrosis which were reduced by the treatment of phenolic extract of tubers of cyperus rotundus and treatment with taurine. The results that consumption of phenolic extract of tubers of cyperus rotundus and taurine could reduce the risk of cardiovascular diseases. The final conclusion is that the phenolic extract of tubers of cyperus rotundus and taurine have a cardioprotective effect against ISO-induced MI in rats. ~ XVII