Potency of *Urena lobata* leaves extract on the inhibition of hepatic complication on diabetic rats

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Abstract: **OBJECTIVE** To investigate the potency of Urena lobata leaves extract on the inhibition of hepatic complication on diabetic rats. **METHODS** This study uses control group post test only with male Sprague dawley rats. Diabetic rats was induced by high fructose diet (HFD) and single dose streptozotocin 25 mg·kg^{-1} bw intra peritoneal. The rat was administrated orally with water extract of *U. lobata* leaves in concentrations of 250, 500 and 1000 mg·kg^{-1} bw for 4 weeks. After scarifying, liver organ and blood were collected and then superoxyde dismutase (SOD) hepar level, malondialdehyda (MDA), tumor necrosis factor-alpha (TNF-α), serum glutamic oxaloacetic transaminase (SGOT) and serum glutamic piruvic transaminase (SGPT) were examined. The data was analyzed using ANOVA test continued with LSD test (P<0,05). **RESULTS** The oral administration of *U. lobata* leaves extract 250, 500 and 1000 mg·kg^{-1} bw were able to increase SOD hepar level about 90%, 100% and 120% respectively compared to diabetic group (P<0.05), while the MDA hepar level was decreased by 40%, 50% and 70% respectively (P<0.05), whereas the TNF-α hepar level was decreased by 30%, 50% and 70% respectively (P<0.05). The supplementation of water extract from *U. lobata* in dose of 250, 500 and 1000 mg·kg^{-1} bw decrease SGOT level approximately 10%, 30% and 50% compared to control group (P<0.05), while the SGPT level was decreased by 10%, 20% and 40% respectively (P<0.05). In diabetic groups, SOD heparlevel was decreased compared to normal group (P<0.05) whereas the MDA and TNF-α were increased (P<0.05). Meanwhile SGOT level and SGPT were increased in diabetic group (P<0.05). **CONCLUSION** *U. lobata* leaves extract could inhibit hepatic complication on diabetic rats by increasing of SOD hepar level, decreasing of MDA hepar level, TNF-α, SGOT and SGPT. This effect may be related to active compounds that act as an antioxidant and anti-inflammatory in *U. lobata* extract.

Key words: *U. lobata*; diabetic; hepatic complication; SOD; MDA; TNF-α; SGOT; SGPT
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Effect of *Urena lobata* leaves extract on the improvements of lipid profiles on diabetic rats

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Abstract: **OBJECTIVE** To investigate effect of *U. lobata* leaves extract on the improvement of lipid profiles on diabetic rats. **METHODS** This study uses control group post test only with male Sprague dawley rats. Diabetic rats was induced by high fructose diet (HFD) and single dose streptozotocin 25 mg·kg^{-1} bw intra peritoneal. The rat was administrated orally with water extract of *U. lobata* leaves in dose of 250, 500 and 1000 mg·kg^{-1} bw for 4 weeks. After scarifying, blood sample was collected and then total cholesterol (TC) serum level, triglyceride (TG), low density lippoprotein (LDL) and high density lipoprotein (HDL) were examined. The data was analyzed using ANOVA test continued with LSD test (P<0.05). **RESULTS** The supplementation of water extract from *U. lobata* in dose of 250, 500 and 1000 mg·kg^{-1} bw decrease TC serum level approximately 15%, 25% and 35% compared to diabetic group (P<0.05), whereas the TG was decreased by 10%, 20% and 30% (P<0.05) respectively. The oral administration of *U. lobata* leaves extract 250, 500 and 1000 mg·kg^{-1} bw also were able to decrease LDL serum level about 30%, 60% and 90% respectively compared to diabetic group (P<0.05), while the