

Comparative Diuretic Effects of the Whole Plant and Fruits of *Tribulus terrestris* Linn.(ဆူးလေ) in Wistar Albino Rats

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Abstract

The medicinal plants are major component in traditional medicine as well as valuable potential resource for new drugs. *Tribulus terrestris* Linn. (ဆူးလေ) is one of the medicinal plants used for diuretic, hypotensive, antiurolithiatic and spasmolytic activities in traditional medicine of many countries including Myanmar. This study aims to prove scientifically the diuretic effect of *Tribulus terrestris* Linn. by comparing the effects of the watery extracts of the whole plant and fruits. Qualitative phytochemical analysis revealed that both whole plant and fruits extracts contained carbohydrate, reducing sugar, glycoside, saponin and amino acid but alkaloid and tannin were present only in the fruit. Acute oral toxicity test was done in ICR mice by using OECD 425 guideline (2008) and there were no acute toxic and lethal effects with dose of 5000 mg/kg in both samples (LD₅₀ > 5000 mg/kg). The study design is comparative randomized controlled experimental animal study. Eight groups of 6 Wistar albino rats in each were used for this study. Watery extract of 3 different doses (300 mg/kg, 500 mg/kg and 700 mg/kg) for each whole plant and fruits were used to test diuretic effect. Control group was given 0.9% sodium chloride solution and furosemide was used as the standard drug. After fasting, the animals were given watery extract orally and put into metabolic cages. Then urine was collected for 5 hours. Urinary sodium and potassium concentrations were measured by atomic absorption spectrophotometer (AAS). When analyzing the results, as compared with control, there was no significant diuretic effect in whole plant extract but only fruit extract showed significant diuretic effect.