Study on Chemical Composition, Preventive and Treatment Effects of Blumea lacera Extract on Experimental Chronic Renal Failure

Tran, Van Cuong (School: HUS High School for Gifted Student)
Trinh, Linh (School: HUS High School for Gifted Student)

In Vietnam, many patients with chronic renal failure requires high cost for treatment. Aims: Finding the scientific basis for developing new drug from Vietnamese medicinal herbs to prevent and treat chronic renal failure in experimental model. Methods: Blumea lacera was dried, minced, extracted with different polarizing solvents to quantify the chemical composition using specific chemical reactions. The preventive effect study was conducted for 35 days: 18 healthy mice were divided into 03 groups (i) Control group: normal condition; (ii) Preventive group: adenine 100mg/kg/day every 2 days, alternating with extract (0,628g/kg/day, equivalent to 8 grams of dried herb/kg/day); (iii) Non-preventive group: adenine 100mg/kg/day every 2 days. Next, in the treatment effect study lasting 3 weeks, mice in the said groups (i) and (iii) were used as control group and treatment group respectively, in which mice in group (iii) having chronic renal failure. Mice in the group (iii) were taken adenine 100mg/kg/day every 2 days, alternating with extract (0,628g/kg/day). The concentration of urea and creatinine as well as the level of erythrocyte and hemoglobin of mice were determined. Results:The composition of Blumea lacera extract includes Flavonoid, Alcaloid, Saponin, Tannin, Sterol, Carotenoid, Polysaccharide, Organic Acid, Reducing sugar; Blumea lacera's extract has clear preventive and treatment effects in experimental chronic renal failure by comparising the concentration of urea and creatinine as well as the level of erythrocyte and hemoglobin among mice groups. Future studies : find out the specific substance of the extract having preventive and treatment effect for chronic renal failure.

Awards Won: