

Antioxidant and antihyper-tensive effect of Azadirachta excelsa leaf extract in spontaneously hypertensive rat (SHR) model

ABSTRACT

A research was carried out to evaluate the antioxidant activities of *Azadirachta excelsa* and its antihypertensive effect in Spontaneously Hypertensive Rat (SHR). The Total Phenolic Content (TPC) and Total Flavonoid Content (TFC) was quantified and IC₅₀ level of *A. excelsa* was determined. For the antihypertensive effect, the rats were randomly assigned into four treatment groups as followed: Group I (normotensive control from Wistar-Kyoto rats), Group II (hypertensive control from SHR), Group III (SHR receiving 250 mg/kg of *A. excelsa* extract), and Group IV (SHR receiving 40 mg/kg of captopril). The Systolic Blood Pressure (SBP) of these animals was performed by tail-cuff method. The average of TPC and TFC was 202 ± 0.42 mg Gallic Acid Equivalent (GAE)/g extract and 198 ± 0.67 mg rutin equivalent/g extract, respectively. Meanwhile, the IC₅₀ value of free radical scavenging activity was about 308 μ g/ml. The systolic blood pressure level of the SHR treated with *A. excelsa* significantly reduced (153 mmHg; P <0.05) compared to the untreated SHR control (187mm Hg; Group II). In conclusion, we found that *A. excelsa* extract at a dose of 250 mg/kg possesses phenolic properties that can be used as a potential treatment for hypertension due to its high antioxidant activities.

Keyword: Antihypertensive; Antioxidant; *Azadirachta excelsa*