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PP 16 – *In vitro* Thrombolytic Activity of Flowers of *Nerium oleander* (Kaneru)

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Background: Thrombosis leads to many severe complications including myocardial infarction, deep vein thrombosis by blocking the blood flow through the circulatory system. Thrombolytic agents such as streptokinase, urokinase are used to dissolve the thrombus formed inside blood vessels, however, those possess some limitations. In indigenous medicine, herbal products are used in the treatment of various diseases. *Nerium oleander* (kaneru) is widely employed in traditional medicine to treat cardiovascular disorders. A preliminary screening of several plant extracts for the thrombolytic activity has revealed that the flowers of *N. oleander* is a good thrombolytic agent, thus the present study was conducted as a continuation of our previous investigation.

Objectives: The objective of the present study was to determine the concentration of *N. oleander* extract responsible for the maximum thrombolytic activity and to compare its efficacy with the positive control streptokinase.

Methodology: Four concentrations (0.5, 1.0, 5.0, 10.0 mg/mL) were prepared from the methanolic extract *N. oleander*. Using the blood of selected sixteen individuals, in-vitro thrombolytic activity was assessed where streptokinase (150,000 IU) was used as the positive control and normal saline as the negative control. The clot lysis percentage was calculated using weight reduction of the blood clot in comparison to the initial clot weight.

Results and conclusions: The mean clot lysis percentages at 0.5, 1.0, 5.0 and 10.0 mg/mL concentrations were determined as 6.09%, 6.37%, 6.68% and 19.26% respectively in comparison to streptokinase (23.74%) and normal saline (1.11%). Our observations revealed that 10 mg/mL is the concentration resulting the highest thrombolytic activity and there is no significant difference between mean clot lysis percentages of streptokinase and *N. oleander* extract. Therefore, 10.0 mg/mL concentration of methanolic extract of flowers of *N. oleander* has a good thrombolytic ability, however, further investigations on its chemical and toxic properties are required before developing it as a therapeutic agent.

***Keywords*:** *Nerium oleander*, streptokinase, thrombolytic