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In-Vitro Assessment of Saponin's Level and Hemolytic Activity of Five Medicinal Plants from Eritrea

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Abstract : Medicinal plants are used for various indications in Eritrea according to traditional systems of medicine. Safety concerns, however, are dubious since some medicinal plants have toxic effects indeed. The medicinal plants under study (Commicarpus pedunculosis, Steganotaenia araliaceae, Boscia angustifolia, Solanum incanum, and Calpurnia aurea) are used in the treatment of various diseases. Thus, safety studies must be performed prior to usage since they are rich in phytoconstituents like saponins. Saponns are natural glycosides with several pharmacologic activities including hemolysis. The study was done to assess the level of saponin and toxic effects (hemolysis) of medicinal plants used in folk medicine. The plant extracts were subject to phytochemical analysis, foam test, and hemolytic assay. Regarding the Fh value, Solanam incanum consisted highest Fh value (20mm), whereas Boscia angustifolia showed the lowest Fh value (10mm). The level of hemolysis of all the plant extracts ranged between 9.0 to 20.2 %. All the plant extracts were suitable for treatment with respect to saponin level since they exhibited minimal hemolytic effect against erythrocytes.

Keywords : Boscia angustifolia, Calpurnia aurea, Commicarpus pedunculosis, hemolysis, saponin, Solanum incanum, Steganotaenia araliaceae
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