Investigation on Phytochemical Constituents and Anti-inflammatory Activity of *Stemona burkillii* Prain (Thamya)

Hnin Hnin Ei[1], Saw Hla Myint[2], Mya Thandar Aung[3] and Nay Mar Soe[4]

Abstract

*Stemona burkillii.*Prain belongs to the family Stemonaceae and it is known as (Thamya) tubers in Myanmar. The samples had been collected from Gangaw Township in Magwe Region. This research focused on the investigation of some phytochemical constituents, elemental analysis and anti-inflammatory activity of the tubers of *S. burkillii* (Thamya). Preliminary phytochemical investigation of *S. burkillii* tuber was screened by using a test tube method. According to the phytochemical investigation of *S. burkillii* tubers, alkaloids, α-amino acids, carbohydrates, glycosides, organic acids, phenolic compound, quinones, reducing sugar, saponins and tannins were found to be present but flavonoids, starch and cyanogenic glycoside were absent in this sample. Semi-quantitative elemental analysis of *S. burkillii* tubers was performed by the ED XRF methods. These results showed that potassium was found to be major constituent and calcium, silicon, sulphur, iron, strontium, zinc and copper were found to be minor constituents. The two crude extracts were prepared from the samples, watery and EtOH extracts. Then, two crude extracts were tested with anti-inflammatory assay and cell viability assay. According to this observation, the ethanolic extract showed inhibitory activity with IC_{50} value of 90.36 µg/mL, and the cell viability of ethanolic and watery extracts were observed as >100 µg/mL. Therefore, this plant can be used as an ingredient in Myanmar traditional medicine as a remedy for inflammatory diseases.

Key words: *S. burkillii* tubers, elemental analysis, anti-inflammatory

[1]. Demonstrator, Department of Chemistry, Yangon University of Education
[2]. Professor and Head (Retired), Department of Chemistry, Yangon University
[3]. Associate Professor, Department of Chemistry, Yangon University
[4]. Professor and Head, Dr., Department of Chemistry, Yangon University of Education