

Anti-inflammatory and Antioxidant Activity of Heliotropium indicum Linn. Used for Cancer Patients Treatment

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Abstract : Inflammation and oxidative stress work together to produce symptoms in cancer patients. The whole part of it is used as a preparation to treat cancer patients in Khampramong temple which has been a place of treatment and palliative care for cancer patients since 2005. Thus, the objective of this study was to investigate anti-inflammatory and antioxidant activities of Heliotropium indicum extracts. Dried plant materials were extracted in a similar manner to those practiced by the Khampramong Temple i.e. maceration in 95% ethanol and boiling in water. For anti-inflammation activity, both extracts were tested for suppression of nitric oxide (NO) production in LPS-induced RAW 264.7 cells. They were also tested for antioxidant activity by DPPH radical scavenging assay. This study found that the ethanolic extract of Heliotropium indicum exhibited higher inhibitory activity of NO release than Indomethacin as a positive control (IC₅₀ value of 24.17±2.12 and 34.67±6.23 µg/mL, respectively). For DPPH radical scavenging assay, the ethanolic extract also exhibited antioxidant activity but less than BHT as a antioxidant compound (EC₅₀ values = 28.91±4.26 and 13.08±0.29 µg/mL, respectively). In contrast, its water extract had no inhibitory activity on NO release (IC₅₀ > 100 µg/mL) and no inhibitory activity on DPPH radicals (EC₅₀ values > 100 µg/mL). The results showed correlation between anti-inflammation and antioxidant activity and these results also support using this plant to treat cancer patients.

Keywords : Heliotropium indicum, RAW 264.7, DPPH, Khampramong Temple

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