KDU IRC INTERNATIONAL RESEARCH CONFERENCE 2022

ID 632

In-Vitro Evaluation of Gastroprotective Activity and Phytochemical Screening of the Aqueous Leaf Extract of *Cyclea peltate*

MJJH Fernando[1], SC Ilangamge[1#], A Wimalan[1], HMAJ Halahakoon[1] and NRM Nelumdeniya[1]

[1]*Department of Pharmacy, Faculty of Allied Health Sciences, General Sir John Kotelawala Defence University, Sri Lanka*

[#]35-pmy-0003@kdu.ac.lk

Cyclea peltata (Kahipiththan in Sinhala) (*C. peltata*) is a climbing shrub that belongs to the family Menispermaceae. When the leaf extract is mixed with water, it forms an edible gel that is consumed to treat gastrointestinal ulcers in traditional medicine. Since there is no scientific evidence of its use in peptic ulcer disease (PUD), this preliminary study was conducted to assess the gastroprotective activity of the *C. peltata* aqueous leaf extract (gel) *in vitro*. A qualitative phytochemical screening was carried out initially and then the preliminary antacid test, neutralizing effect on artificial gastric juice and the acid neutralization capacity were determined for aqueous leaf extract at 3 different concentrations (0.05 g/mL-CPLG5, 0.1 g/mL-CPLG10, 0.15 g/mL-CPLG15) against positive and negative controls; sodium bicarbonate (SB=09mg/mL) and distilled water, respectively. The physical barrier property (using modified Franz cell method) and the absorption ability of artificial gastric juice for CPLG15 were further evaluated. The phytochemical screening revealed the presence of gum and mucilage; phenols, tannins; saponins, and flavonoids. CPLG15 gave the highest preliminary antacid test result (pH=1.35±0.01 at 28±2 °C; SB=1.84 ± 0.01), neutralizing effect (pH=1.76±0.01 at 28±2 °C; SB=5.64 ± 0.07), and neutralization capacity (H^+=0.6414±0.0481 mmol; SB=3.7815536 ± 0.063515). All CPLG5, CPLG10, and CPLG15 gave mild to moderate antacid effects upon evaluation, and it was concluded that *C. peltata* leaf gel demonstrates strong gastroprotective function through the combination of antacid effect and barrier property (pH difference; CPLG=1.88, Positive control=0.15). The gel also had no absorption effect of artificial gastric juice and might be a candidate to develop herbal antacid preparation, but further investigations are needed to formulate such.

Keywords: *Cyclea peltata, antacid, peptic ulcer disease*