

Tradmed International 2017, Sri Lanka

**International Symposium on Traditional and
Complementary Medicine**

Proceedings

23rd - 25th November 2017

Waters Edge, Battaramulla, Sri Lanka

PP 017: Antibacterial properties of papaya (*Carica papaya* L.) leaf extract

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As highlighted by World Health Organization, 30% of all deaths in 2010 were due to infectious diseases and the WHO forecasts 13 million deaths attributed to these causes in 2050. Our objective was to determine the active chemical constituents and antibacterial effect of Papaya (*Carica papaya* Linn.) leaf extract on *Streptococcus pyogenes* and *Escherichia coli*. Papaya (*Carica papaya* Linn.) leaf ethanol extract was used for the phytochemical tests. *Streptococcus pyogenes* and *Escherichia coli* were cultured in Brain Heart Infusion (BHI) and Nutrient Agar culture mediums. Disc Diffusion method used to measure the Zones of Inhibition in crude extract concentrations ranging from 25-100% while the positive control (Erythromycin) to *Streptococcus pyogenes* and (Ciproflaxacin) for *Escherichia coli*. The active constituents Alkaloids, Tannins, Unsaturated sterols and active Glycosides were present in the Papaya (*Carica papaya* Linn.). The 100% papaya Leaf extract showed the highest effect on *Staphylococcus aureus* and *Escherichia coli* while 25% leaf extract showed the lowest effect on *Staphylococcus aureus* and *Escherichia coli*. Results show that Papaya leaf extract has an antibacterial property against *Streptococcus pyogenes* and *Escherichia coli*. A parallel study could be conducted to add chemical formula which could enhance the antibacterial property of papaya (*Carica papaya* Linn.) leaf extract and to use the extract further as an alternative medicine to cure bacterial diseases.

Keywords: papaya leaf, anti-Bacterial, *Escherichia coli*, *Streptococcus pyogenes*

PP 018: Anti-inflammatory activity of the alkaloid fraction of *Acronychia pedunculata* leaves

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Acronychia pedunculata ("Ankenda" in Sinhala, Family: Rutaceae) is a medicinal plant found in Sri Lanka and the leaves, stems, roots and fruits have been used for centuries in folk medicine for the treatment of various diseases. Our previous studies have shown that 70% ethanol extract of *A. pedunculata* leaves (EEAL) has significant ($p < 0.05$) anti-inflammatory activity on carrageenan induced rat paw oedema model. Phytochemical screening indicated that this plant is rich with alkaloids and in the present study; the anti-inflammatory activity of alkaloid fraction of *A. pedunculata* leaves extract was evaluated. Healthy adult male, Wistar rats weighing 150-200 g were used for the experiment. The negative and positive control groups were orally administered 1.0 mL of 0.5 % carboxymethyl cellulose (CMC) and 5mg/kg b.w of indomethacin in 1 mL of 0.5% CMC respectively. The test groups received 100 mg/kg b.w of the 70% EEAL and its alkaloid fraction in 1 mL of 0.5% CMC. The results showed that both of EEAL and its alkaloid fraction showed significant ($p < 0.05$) reduction of paw oedema formation when compared to negative control. But, the

treatment with alkaloid fraction has activity enhancement when compared with the EEAL group. The maximum percentage inhibition of formation of rat paw oedema were found to be 81.8% for alkaloid fraction at 5th hour while it was 45.4% for EEAL and 90.9% for indomethacin which is a positive control. In conclusion, these observations provide valuable evidence for the anti-inflammatory properties of alkaloid fraction of leaves of *A. pedunculata*. Further studies will be undertaken to isolate the active compounds in this fraction.

Keywords: *Acronychia pedunculata*, anti-inflammatory, carrageenan

PP 019: A descriptive study of *Sharkaradi Kalka* used in the Indigenous medicine practice of Sri Lanka

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Sharkarādi Kalka is a medicinal preparation used for children in Ayurveda as well as in the Indigenous medicine of Sri Lanka. The aim of this study was to analyze the properties of herbal and mineral ingredients according to basic principles of Ayurveda, used to prepare *Sharkarādi Kalka*. This was a literature based study and the data was collected from indigenous classical text *Vatikaprakaranaya*. Collected data were comparatively analyzed and demonstrated to identify the properties of different types of ingredients in selected formula. According to data, 18 ingredients were identified. 14 ingredients were Herbal materials like *Gammiris*, *Welmee*, *Walangasal*, *Penelaeta*, *Walgammiris*, *Suwandakottam* etc. and 3 were minerals *Sahindalunu*, *Yawakshara*, *Suwasalunu*. Bees honey was used as the grinding agent. Considering the properties of ingredients including the grinding agent, 66.6% of *drauya* contain *Katu rasa* and 50% contain *Tikta rasa*, 33.3% *Madura rasa*, 11.1% *Lavana* and *Kashaya rasa*. *Katu* and *Tikta* perform *Vātavrūddi* and *Kaphakshaya*. The properties were 61.1% *Laghu* and 50% *Ruksha*, 38.8% *Tikshna* and 22.2% *Snigdha*. *Lagu* increase the *vāadosha* and reduce the thickness of *Kapha*. *Tikshna* and *Ruksha* helps in excreting vitiated *Kapha*. 61.1% of ingredients contain *Ushnaveerya* which help in *Vātānulomana* and *Kaphanissārana*. They also help in reducing the thickness of *Kapha*. 61.1% of ingredients are with *Katuvipaka* and helps in increasing *Vāta*. According to the given data and *Rasa*, *Guna*, *Veerya*, *Vipaka* of the ingredients used in *Sharkaradi Kalka* it helps to reduce the thickness of vitiated *Kapha* and they are excreted by the increased *Vātadosha*. *Sharkaradi Kalka* is very effective in *kaphajaroga* like *Kāsa*, *Swāsa* in children as well as adults.

Keywords: *Sharkaradi kalka*, properties