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ANALGESIC ACTIVITY OF *ALPINIA CALCARATA*

Alpinia calcarata (family Zingiberaceae) is a common medicinal plant known in Sri-Lanka as Heen-araththa. The rhizome of this plant has been used locally in ayurvedic medicinal system for the treatment of arthritis. Usually, drugs used for arthrities have analgesic properties. The aim of this study was to scientifically investigate the analgesic potential of A. calcarata hot aqueous and hot ethanolic extracts using three models (hot plate, tail flick & formalin test).

Different doses of hot aquous/ hot ethanolic extracts (100, 250,500,750 and 1000 mg/kg ; and vehicle/s (n=9) were orally administered to seven groups (n=9) of healthy adult male rats. To another group of rats (n=6) Meperidene (25 mg/kg) was subcutaneously injected as the positive drug. The hot plate and tail flick latencies were determined at hourly intervals up to 5 h. In the formalin test, the rat was observed for 60 minutes after the injection of the formalin and the time spent on licking the injected hindpaw was recorded (early phase ; 5 min and late phase ;15-60 min).

Both extracts had shown a significant analgesic activity in the hot plate test, but not in the tail flick test. This suggests both extracts are effective against acute pain and the effect is mediated supraspinally. The analgesic activity of both extracts showed rapid onset (within 1 h) and lasted for 4 h in hot water and 5 h in hot ethanolic extracts. The ED50 values for hot aqueous and hot ethanolic extracts were 251.3 and 211.6 mg/kg respectively. In the formalin test, both extracts significantly suppressed the time spent on paw licking in both phases. Therefore, Alpinia calcarata shows promising analgesic activity and isolation of active compound/s of A. calcarata extracts is likely to yield targets for analgesic drug development.