

Staphylococcus aureus, *Escherichia coli*, *Bacillus subtilis* and *Staphylococcus epidemics*. The dichloromethane crude extract showed satisfactory results against the above-mentioned bacteria species showing the highest activity against *Staphylococcus aureus* giving an inhibition zone of 18 mm at a concentration of 6.66 mg/ml. Five major fractions were obtained by subjecting the dichloromethane extract to column chromatography. All fractions gave satisfactory results for antibacterial assay. The F4 fraction showed fairly satisfactory results against three bacteria species. Therefore the F4 fraction was subjected to a preparative thin layer chromatography and one fluorescent-active compound was isolated. It was concluded that secondary metabolites of lichen *Roccellamontagnei* possess anti-inflammatory and antibacterial activities.

Keywords: secondary metabolites, anti-bacterial, anti-inflammatory, *Roccellamontagnei*, lichens

OP 09-08: Antibacterial activity of *Parankipaddai Kudineer* (decoction) and its component plants

J Thileepan¹, V Thevanesam², S Kathirgamanathar³

¹ Unit of Siddha Medicine, University of Jaffna, Sri Lanka

² Department of Microbiology, Faculty of Medicine, University of Peradeniya, Sri Lanka

³ Industrial Technology Institute, Malabe, Sri Lanka

Decoction, a hot water extract, is an internal medicine in the Siddha medical system. *Parankipaddaikudineer* (PPK) consists of 13 plant parts from 12 medicinal plants and is used to treat skin diseases. The antimicrobial activity of PPK has not been reported previously. The study of the decoction as well as its component plants is timely as there is a rapidly increasing demand for novel antimicrobial agents from plant sources, particularly for the treatment of infections by bacteria resistant pathogens. *Staphylococcus aureus* NCTC 6571, *Escherichia coli* NCTC 10418, *Pseudomonas aeruginosa* NCTC 10662 and 5 clinical isolates of *Methicillin-Resistant S. aureus* were used in this study. The decoction was prepared according to the method in Siddha literature. Antibacterial screening at 1/10, 1/20, 1/40, 1/80 and 1/160 dilutions of decoction was performed using a well diffusion method. Plates were incubated at 37 °C for 24 h and the zone of inhibition (ZOI) measured. The Minimum inhibitory concentration (MIC) was determined by the agar dilution method. Ten µL of the 1/10 dilution of each test strain was used. After 24 hours incubation, the growth of pathogens was compared with the control. PPK decoction has inhibitory activity (ZOI: 15.3±2.5 – 16.0±1.0 mm) against *S. aureus* NCTC 6571 and 5 MRSA strains at 1/10 dilution. Out of 12 individual plant decoctions, 10 were shown to have inhibitory activity, 9 of which showed activity against *S. aureus* NCTC and 5 strains of MRSA. Three replicates were carried out for the entire procedure. Results show that PPK decoctions and its individual plants *S. aromaticum*, *E. ribes*, *C. angustifolia*, *I. aspalathoides* and *M. fragrans* leaf possess inhibitory activity against both sensitive and resistant strains of *S. aureus* at a high dilution which indicates the potential of using them as antimicrobial agents.

Keywords: antibacterial activity, *Parankipaddai Kudineer*, MRSA, bacterial resistance pathogens