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analyzed against the revised Cambridge Reference Sequence (rCRS). The polymorphisms identified in patients of Sri Lankan Tamil ethnicity were compared with pre-existing data obtained from 30 healthy Sri Lankan Tamil individuals.

Results: The polymorphisms A73G, A263G, C16223T were consistently observed in patients and in the control data set. T16189C was observed in 6 patients (28.57%) while it was present among 2 healthy controls (6.67%).

Conclusions: Our study suggests that T16189C polymorphism could be associated with sporadic breast cancer in the Sri Lankan Tamil population. This observation needs to be confirmed in a larger cohort of patients before being recommended as a predictive marker for sporadic breast cancer in this ethnic group.

Keywords: MtDNA, hypervariable regions, sporadic breast cancer, Sri Lanka, Sri Lankan Tamil

PP - 003

The evaluation of antibacterial and antioxidant activities of endophytic fungi derived from *Dipterocarpus zeylanicus*

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Introduction and objectives: Endophytic fungi are having mutualistic associations with their host plants without inciting any disease symptoms. Endophytic bioactive compounds are less toxic to the cell and particularly important to the medical community as potential drugs which are cost-effective, biocompatible with fewer side effects which may not adversely affect human cells. This study was aimed to determine the antibacterial and antioxidant activities of endophytic fungi derived from *Dipterocarpus zeylanicus*.

Methods: Healthy leaves of *Dipterocarpus zeylanicus* were subjected to surface sterilization and were cultured on potato dextrose agar. Through repeated sub culturing, fifteen different endophytic fungal isolates were obtained. According to morphological and microscopic characterizations, most of the isolated endophytes were found to be having branched hyphae with spores. Ethyl acetate was used for the extraction of fungi and the fungal extracts were evaporated under the reduced pressure to get the solid residues. Phytochemical analysis revealed the presence of Saponins, Terpenoids, and Anthraquinones. The Antibacterial analysis was carried out using EUCAST disk diffusion method at 40 µg per disk concentration of the sample.

Results: Four out of six endophytic isolates showed good antibacterial activities against a panel of pathogenic bacteria. The highest antibacterial activities (8.667±0.289 mm diameter of inhibition zone for Methicillin-resistant *Staphylococcus aureus* and 8.167±1.258 mm diameter of inhibition zone for *Staphylococcus aureus*) were exhibited by the endophytic fungal isolate RV/DZ/A3/S1. DPPH radical scavenging activity was carried out to determine the antioxidant potential of the endophytic fungal isolates. The highest antioxidant (IC50 value = 0.02583 µg/mL) activity was shown by the same sample when compared with L-ascorbic acid (IC50 value = 31.150 µg/mL).

Conclusions: Therefore, further studies can be done to isolate new drugs with the promising antibacterial and antioxidant activities of endophytic fungi derived from *Dipterocarpus zeylanicus*.

Keywords: *Dipterocarpus zeylanicus,* endophytic fungi, antibacterial, antioxidant, *Staphylococcus aureus*

PP - 004

In vitro antioxidant and antibacterial activities of endophytic fungi isolated from *Mikania cordata*

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Introduction and objectives: Endophytic fungi are endosymbiotic microorganisms, which are present intra and intercellularly in living plant tissues. They produce a wide range of compounds with diverse biological activities, by symbiotically associating with their host against pathogens, insects, other pests, and domestic herbivores. The current study was carried out to investigate antibacterial and antioxidant activities of endophytic fungi derived from *Mikania cordata* leaves and stem parts.

Methods: Surface sterilized plant parts were cultured on potato dextrose agar medium to isolate endophytic fungi. 11 pure cultures of endophytic fungi were obtained after doing series of sub culturing steps. Crude extracts of Mikania cordata fungal endophytes were obtained using ethyl acetate solvent. DPPH (2,2-D-diphenyl-1picrylhydrazyl) radical scavenging assay was used to evaluate the antioxidant capacity. Antibacterial assay for *Mikania cordata* endophytic fungal crude extracts was done by using EUCAST disk diffusion method against MRSA (Methicillin-resistant *Staphylococcus aureus*), *Staphylococcus aureus*, and *Escherichia coli* at 40 µg/ per disk concentration. Gentamicin (10 µg/per disk) and 20 µL of DMSO were loaded on to the positive control disk and negative control disk.

Results: Highest antioxidant activity was shown by the RN/MC/B4/S1 endophytic fungal leaf extract (IC50 = 0.156 µg/mL) compared with the reference standard ascorbic acid (IC50 = 31.150 µg/mL). Among the 6 active isolates, the Sample RN/MC/P2/S2/III- stem sample had a noteworthy antibacterial potential against all the tested bacterial strains including; MRSA (7.330 ± 0.580 mm diameter of inhibition zone), *Staphylococcus aureus* (8.000 ± 1.320 mm diameter of inhibition zone) and *Escherichia coli* (7.167± 0.289 mm diameter of inhibition zone).

Conclusions: This study provided evidence that *Mikania cordata* endophytic fungi have a good antioxidant and antibacterial capacities which can be beneficial for producing new antibiotics.

Keywords: *Mikania cordata*, endophytic fungi, *Staphylococcus aureus, Escherichia coli*

PP - 005

Qualitative analysis of secondary metabolites and investigation of antioxidant activity of *Gymnema sylvestre*

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Introduction and objectives: *Gymnema sylvestre* (Asclepidaceae), perennial slow growing woody climber commonly known as "Masbedda". *G. Sylvester* is a highly valuable medicinal plant which is used as a remedy to treat type 2 diabetes: reduce the blood sugar level by temporarily destroying the taste of sweetness. The present study was conducted to preliminarily identify secondary metabolites contain in *G. sylvestre* leaves and to demonstrate its antioxidant activity.

Methods: Solvent extraction method was used to extract secondary metabolites by different solvents: hexane, methanol, water and ethyl acetate. Preliminary identification of phytochemicals present in the crude extract was done by using ferric chloride test, Keller-Kiliani test, Salkowski's test, alkaline reagent test, Wagner test, and foam test. Further, crude extracts were subjected to thin layer chromatography analysis in ethyl acetate chamber. DPPH radical scavenging method was used to detect the antioxidant value in methanol extract and compared with ascorbic acid.

Results: It was identified that phenolics, saponins, glycosides, alkaloids, terpenoids, coumarins, and flavonoids were present in *G. sylvestre* tested leaf extracts and tannins, quinones were absent. Retention factors (Rf) of crude extract were found to be 0.63, 0.66, 0.69, and 0.60 with the above solvents respectively in TLC analysis and determined the polarity of extracted secondary metabolites. Rf value in polar systems was found that higher values and vice versa. The highest DPPH radical scavenging activity was recorded as 46.86 ± 0.06 at 5000 mg/ml and lowest 45.03 ± 0.06. IC50 values of ascorbic acid and *G. sylvestre* were 290.95 and 400.45 respectively, and the IC50 value of *G. sylvestre* was comparatively higher than ascorbic acid due to the presence of a higher amount of secondary metabolites which has antioxidant activity.

Conclusions: The present study could be expanded into the isolation of gymnemic acid, which is the major bioactive compound in *G. sylvestre* leaves and the investigation of its metabolism in diabetes.

Keywords: Antioxidant activity, IC50, secondary metabolites, solvent extraction, TLC

PP - 006

Development of a method to quantify the metabolites of cinnamon in human plasma

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Introduction and objectives: Ceylon cinnamon is newly developed as a pharmaceutical agent to reduce blood glucose, cholesterol and blood pressure. Identifying pharmacokinetics of this new pharmaceutical in humans is important as no human pharmacokinetic data of cinnamon have been reported.

Methods: Cinnamic acid was identified as one of the main metabolites of cinnamon