using agar well diffusion assay. Genotoxicity was analyzed using cytokinesis block micronuclei (CBMN) assay on isolated human lymphocytes. Ethyl acetate extract of this mouth freshener was found to be a rich source of natural antioxidants ((FRAP: 4.23±0.13 mmol Fe+2 equivalents /mg of DW, DPPH assay as IC50:25.5±0.27 µg/ml, ABTS assay: 2.50±0.03 mmol of Trolox equivalents /mg of DW). Agar well diffusion assay with 30, 15 and 7.5 mg/ml of the same extract showed zones of inhibition of (14.0±0mm), (12.0±1.3mm) and (12.0±0mm) respectively for Streptococcus mutans and (18mm±1.2mm), (15.3±1.7mm) (13.7±1.7mm) respectively for Porphyromonasgingivalis. CBMN assay revealed that this extract is not genotoxic even at a very high concentration of 2.5 mg/ml. Thus, we conclude that the ethyl acetate extract of this traditional polyherbal mouth freshener is a non genotoxic source of natural antioxidants and antimicrobials and propose it as a potential candidate to be used in preventive oral health care after clinical trials.

Keywords: traditional polyherbal mouth freshener, antioxidants, P. gingivalis, S. mutans, CBMN assay

OP 12-03: Method of incorporation of natural antioxidant from cinnamon leaf oil as an antioxidant into surgical and examination gloves

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The number of surgical/examination gloves used globally in health care has increased dramatically and allergic contact dermatitis develops on the hands after exposure to latex examination gloves. Surgical glove chemicals are the most frequent causes of occupational allergic contact dermatitis in health care workers as a result of frequent glove use. Contact allergy to surgical gloves is also caused by antioxidants that are used to prevent rubber degradation. A number of plant secondary metabolites act as scavengers of free radical species and so have been classified as antioxidants. The present study aims to describe the potential of cinnamon leaf oil as an alternative natural antioxidant in the glove industry. *Cinnamon zeylanicum* is an endemic plant in Sri Lanka and the essential oils from bark and leaf are heavily used in perfume and food industries. In the present study cinnamon leaf oils were extracted using Clevenger apparatus and the percentage yield of the essential oil was 3.2 %. The quality of the essential oil was compared with a commercial sample using Gas chromatography. It was confirmed that both samples contained 78 -80 % eugenol. The radical scavenging activity of cinnamon leaf oil has been evaluated using 2,2-diphenyl-1-picryl-hydrazyl-hydrate (DPPH) assay and BHT was used as the positive control. The results revealed that 100 % radical scavenging activity was shown at 10 µg/mL concentration of the essential oil. The cinnamon leaf oil has the highest antioxidant activity (IC50 = 8.33 µg/mL) which is three times less than the synthetic antioxidant BHT (24.09 µg/mL). Lower IC50 value indicates higher antioxidant activity. Therefore it is confirmed that cinnamon leaf oil can be used as the antioxidant to develop surgical/examination gloves. Future studies will be concentrated to investigate a suitable percentage

of the stabilizer and the emulsifier in order to prepare a homogeneous solution of the essential oil to be used in the surgical/examination glove manufacturing process.
Keywords: antioxidant, surgical/examination glove, essential oil

OP 12-04: Preliminary study for developing an anticoagulant drug using herb *Argyreia Nervosa*

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The aim of this study was to screen *Argyreia nervosa* (*Maha-Dumudu* in Sinhala, elephant creeper in English, *Ghav-patta* in Hindi), which is used in the traditional medicine system of Sri Lanka for its anticoagulant activity, as a preliminary study for developing an anticoagulant drug. The whole plant of *A. Nervosa* was extracted in methanol. The crude extract was partitioned with solvents; petroleum ether, water, and ethyl acetate. A concentration series was prepared by dissolving each extract in 1% Phosphate Buffer Saline (PBS). All the prepared extracts were screened for anticoagulant activity in Prothrombin time (PT) test and Activated Partial Thromboplastin Time (APTT) test using plasma samples from 10 healthy volunteers for each concentration. Warfarin and heparin were used as positive controls for the tests. Petroleum ether 4mg/ml extract in PT test ($p=0.037$), Crude 4mg/ml extract in APTT test ($p=0.039$) and ethyl acetate 4mg/ml extract of *A. nervosa* in both PT ($p=0.005$) and APTT ($p =0.002$) tests,show statistically significant prolongations when compared to controls according to one way ANOVA model. This study suggests that the multiple active constituents in *A. nervosa* produce anticoagulant activity or it possesses one compound which can inhibit the coagulation cascade at more than one site. It is concluded that A. nervosa possesses a statistically significant anticoagulant activity compared to control. This study demonstrates that *Argyreia Nervosa* can be considered to develop as an anticoagulant drug.
Keywords: *Argyreia nervosa*, prothrombin time test, activated partial thromboplastin time test, anticoagulant

OP 12-05: Formulation of a poly-herbal hand-wash with potential antibacterial activity

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The present study was carried out to formulate five different polyherbal handwashes followed by evaluation of in vitro antibacterial efficacy and safety. Plant extracts obtained from *Citrus aurantifolia, Azadirachta indica, Curcuma longa, Aloe vera, Cymbopogon citrates* and *Sapindus trifoliatus* in different ratios were incorporated into the hand-wash base to prepare five different formulations; F1, F2, F3, F4 and F5. The stability of the five different formulations was studied by evaluating the pH and physical appearance for one month. Efficacy of antibacterial activity of all five formulations were evaluated against Gram positive (Staphylococcus aureus) and Gram negative (Pseudomonas aeruginosa, Escherichia coli) bacteria by using a well diffusion method. In vivo