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Immunosuppressive compounds of *Pestalotiopsis* sp., an endophytic fungus of *Tripterygium wilfordii*
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Background and aim: Endophytic fungi from medicinal plants are potential sources of bioactive compounds for therapeutic uses. In this study, an endophytic fungus isolated from the Chinese medicinal plant *Tripterygium wilfordii* and screened for the presence of immunosuppressive substances.

Methods: The purified compounds of *Pestalotiopsis leucothès* were screened for effects on peripheral blood mononuclear cells (PBMC) proliferation, mixed lymphocyte reaction (MLR), cytokine production, IgG and IgM production and T-cell subpopulation. The purity and molecular weight of the isolated compounds were assessed by Liquid Chromatography-Mass Spectroscopy (LC-MS).

Results: 3 active compounds were extracted: BS, GS, and YS. BS had significant anti-proliferative activity of PBMC in presence of various mitogens. The IC₅₀ value of BS in antiproliferative assays in the presence of PHA, PMA+I, MLR and PWM is 1, 4.5, 2.3 and 15 µM respectively. Also, there was significantly reduced the IL-2, sIL-2R, IFN-γ, IL-4 and IL-1β, TNF-α production at concentrations up to 2.8 µM. In contrast, GS showed both suppression and enhancement of PBMC proliferation in presence of various mitogens and also in MLR system. It also expressed similar pattern of inhibition on cytokines. However, it remarkably inhibited PMW stimulated PBMC proliferation (IC₅₀ = 6.0 µM) and IL-4 production up to 2.9 µM. In supportive to these action, GS consistently inhibited immunoglobulin such as IgG and IgM up to 2.9 µM. YS had ten fold lesser activity than BS in all assay systems. The active compounds alter the percentage of T-cell subpopulations only at higher concentrations. Cell viability was not affected. LC-MS of BS, GS and YS compounds showed single major peaks at 6.62, 13.20 and 9.4 RT and their corresponding molecular weight is 355, 347 and 387 respectively.

Conclusions: *P. leucothès* has both immunostimulating effects on PBMC. Structural elucidation of the active compounds by NMR spectral analysis is underway.

Clinical Trials

CP-14

Infrared Thermography to Screen for Fever

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Introduction: Following the Severe Acute Respiratory Syndrome (SARS) outbreak, front face infrared thermography (IRT) mainly targeting the forehead is being used extensively to screen for fever in travelers at airports and border crossings, but its efficiency remains unclear. We therefore set out to compare estimation of body temperature by IRT and more conventional means.

Methods: With their informed consent, 176 volunteers including 49 hospital inpatients (without SARS or suspected SARS and able to cooperate) were recruited over a 20-day period. Remotely sensed IRT camera temperature readings were obtained from various parts of the front and side face at a distance of 1.5 M and the ear also at 0.5 M. These readings were compared to concurrently measured conventional body temperature (determined by aural tympanic IRT). The IRT camera operators were blinded to the conventional temperature readings. The data was submitted to regression/correlation and sensitivity analyses. The Faculty Institutional Review Board approved the entire study.

Results: Conventionally obtained body temperature correlated best with maximum IRT readings from: i] the front face with mouth open ($r = 0.80$; $p < 0.01$), ii] the side face ($r = 0.76$; $p < 0.01$), and iii] the ear at 0.5 M ($r = 0.79$; $p < 0.01$). The latter readings yielded the narrowest 95% confidence intervals and could be used to predict conventional body temperature readings of 38 degrees C or higher in this population with a sensitivity of 83% and a specificity of 88%. A relatively poor correlation was obtained between IRT readings from the forehead and conventional body temperature.

Conclusion: IRT readings from the ear at 0.5 M yielded the most reliable, precise and consistent estimates of conventionally determined body temperatures. These observations therefore raise questions about current screening procedures at airports and border crossing points, especially as the point prevalence of fever in the targeted population is likely to be very low.