

Phytochemical and antitrypanosomal properties of *Ganoderma applanatum*: Would application of nanotechnology make any difference

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Nanotechnology has revolutionized management of infections and infestations as it has turned chemicals of previously little or no clinical benefits to potent instruments for treatment of infections in humans. This study was set up to review the phytochemistry of *Ganoderma applanatum*, its potentiality in nanotechnological engineering for clinical use as well as impact of aqueous extracts of *Ganoderma applanatum* on laboratory rats infected with *Trypanosoma brucei brucei*. Aqueous extracts of *Ganoderma applanatum* were obtained using hot sterile distilled water through whatmann filter paper. The presence of saponins, alkaloids, tannins, anthraquinones, flavonoids, cardiac glycosides and steroids were tested using standard procedures *in vitro*. Laboratory rats were infected with *Trypanosoma brucei brucei* by injecting infected blood samples into their peritoneal cavities. Laboratory rats infected with *Trypanosoma species* served as positive controls while similar sets of rats uninfected by the parasites served as negative controls. Aqueous extracts were then inoculated through the tail veins into laboratory rats infected with *Trypanosoma brucei brucei* along with the negative controls. Blood samples were collected daily, stained with Giemsa's stain and examined under X100 oil immersion objective lens using the microscope for the presence of *Trypanosoma brucei parasites*. *Ganoderma applanatum* aqueous extracts contained detectable levels of saponins, flavonoids, cardiac glycosides and steroids but undetectable levels of alkaloids, tannins and anthraquinone. All the infected rats died by day 12 from overwhelming trypanosomal infections due to its obvious lack of activity. The biochemical constituents of *Ganoderma species* should be subjected to further research probably nanotechnological engineering in order to, perhaps, discover more of its wider therapeutic benefits, and to further disprove its suitability or otherwise in the treatment of African sleeping sickness.

Biography

Joysree Das has been working as a Assistant Professor, in the Department of Pharmacy, BGC Trust University, Bangladesh from July 2012 to till the date. Mrs. Das has published more than 20 research and review papers in reputed International and national Journal. She participated in many seminars and conferences in home to present his research activities. Her research work based on Phytochemistry, Pharmacology, Molecular biology, Oncology and Bioinformatics. She is a life member of Association of Pharmacy Professionals (APP), India. Shee is interested in Clinical Pharmacy, Protein Engineering, Immunology and Molecular Medicine.

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Antipyretic activity of methanolic extract of leaves of *Clerodendrum serratum* in male wistar rats

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The present study was designed to investigate the anti-pyretic activity of crude extract of leaves of *Clerodendrum serratum* Linn. *Clerodendrum* has antispasmodic actions, which reduces tension in smooth muscles. To assess effect of the methanolic extract of *Clerodendrum serratum* (MECS) on normal body temperature in rats, whole methanol extract was dissolved in 2% Tween 80 for oral administration at a dose of 300 mg/Kg body weights. Hyperthermia was induced according to pyrexia method by subcutaneous injection of 1ml/kg bodyweight of 15 % w/v Brewer's yeast in NSS (normal saline solution). The antipyretic effect started as early as 30min and the effect was maintained for 2h, after drug treatment. The standard drug Paracetamol at 100 mg/kg body weight significantly reduced the yeast-provoked elevation of body temperature. The result obtained for standard drug treated and methanol extract of *Clerodendrum serratum* (MECS) treated rats were compared with the control (2% Tween 80) group and significant reduction in the yeast-elevated rectal temperature was observed. Thus from present study it can be concluded that methanolic extract of *Clerodendrum serratum* Linn possess significant anti-pyretic activity.

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