

## **LONG TERM ADMINISTRATION EFFECTS AND ANTIHISTAMINE EFFECT OF SUDARSHANA POWDER IN AN ANIMAL MODEL**

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Sudarshana powder (SP) is the most effective anti-pyretic Ayurvedic preparation widely used in Sri Lanka as well as in India from the beginning of Ayurveda treatment. It has 53 ingredients. Presently SP contains *Andrographis paniculata* (Burm. F.) Nees (50%) and 52 other ingredients (50%). Our aim was to evaluate whether Sudarshana powder exerts any long term toxic effects and antihistamine effect in Wistar rats.

To identify the long term effects of SP study group of rats was compared with a control group (n=6). The control group was given distilled water while the study group received a single dose of SP (0.8g / kg) per day for 42 days. Toxic manifestations, mortality, body weight changes, food and water intake were monitored daily for 6 weeks. At the end of 6 weeks, blood was collected for biochemical and haematological analysis and the liver, heart and kidneys were harvested for macroscopic and microscopic analyses. The anti-histamine effect of SP was compared using three groups of rats (n=6 in each). One group was given distilled water while the other two groups were given Chlorpheniramine (0.67mg/kg) and SP (0.8g/kg). One hour after drug administration, 50 µl of 200 µg/ ml histamine dihydrochloride was subcutaneously injected to the rats whose fur had been shaved. The area of the wheal formed was measured 2 minutes later and percentage reductions of area of the wheal formed were calculated.

The results revealed no signs of toxicity such as general behavioural changes or mortality. No abnormalities were detected in any of the tested blood parameters as well as body weights, food intake and water consumption in the SP group when compared with the control group. Histopathological studies revealed no significant changes ( $p>0.05$ ) in the liver, heart and kidney tissues. The Sudarshana powder induced a significant anti histamine effect in the test group (47.5%;  $t=0.004$ ,  $p<0.05$ ) and chlorpheniramine in treated group (40.37%;  $t=0.04$ ,  $p<0.05$ ) when compared to the control group ( $p<0.05$ ).

It can be concluded that the Ayurvedic formulation, Sudarshana powder, given long term orally to rats does not cause toxic effects and its antihistamine effect is comparable to the allopathic drug, chlorpheniramine.

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