

## **Chronic anti-inflammatory activity of *Sudarshana* powder on adjuvant-induced arthritis in rats**

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Sudarshana powder (SP) is an effective anti-pyretic poly herbal preparation widely used by Ayurveda practitioners. It has 53 ingredients; the main ingredient of the SP is *Andrographis paniculata* (Burm. f.) Nees in Sri Lanka. The aim of the present study was to evaluate the effect of SP on the progression of adjuvant-induced arthritis in rats.

Arthritis was induced by a single intra-dermal injection of 0.1ml of Freund's Complete Adjuvant (FCA) containing 0.05% w/v *Mycobacterium butyricum* suspension in sterile paraffin oil into a foot pad of the left hind paw of all groups of Wistar rats. There were four experimental groups. Group I was used as the healthy control group. Group II composed of arthritic rats who received distilled water. Group III was arthritic animals treated with a standard non-steroidal anti-inflammatory drug Celecoxib (5 mg / kg) and Group IV was arthritic animals who received SP (0.5g/kg). Following induction of arthritis, daily oral treatment was started on day 14 and continued up to day 28.

Body weight (BW), hind paw ankle joint thickness (AJT) and foot pad thickness (FPT) were measured in all animals using dial calliper on Day 0 (before injection of FCA emulsion) and on Day 3, 7, 10, 14, 17, 21, 24 and 28 after the injection of adjuvant. Full blood count was tested on day 28.

Induction of arthritis significantly increased FPT, AJT and loss of BW. Treatment with SP and standard drug Celecoxib in the arthritic animals produced significant reductions ( $p < 0.001$ ) in FPT, AJT and WBC counts. Further, it also helped in reducing erythema and oedema in the ankle joints and foot pad of the AIA rats and normalized their BW. SP is a scientifically provided traditional rationale in the treatment of arthritis.

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