A-10 Toxicological investigation of ayurvedic drugs: Rasna saptakaya & Eranda saptakaya

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Rasna & Eranda Saptakaya are herbal drugs commonly prescribed by ayurvedic physicians for the treatment of arthritis, The present study investigates the toxic effects of the drugs using rats.

The investigations were divided into short term (acute) and long term (chronic) tests. In short term tests, to determine the lethal dose (LD_{50}) a gradient of

concentrated drugs, was given to 5 animal with control animals fed with water. The animals were observed for toxic signs for 2 days.In the evaluation of sedative activities, 14 male albino rats were selected.

The drugs were concentrated separately 100 fold and 2.00 ml from each, was given to the first 7 animals (Treatment set). 4.00 ml of distilled water was given to each of the remaining 7 rats (Control set). After 1h, the test was done using Rat Hole Board Technique. The animals were placed singly on the hole board, 60 min after the administration of the decoction. Each animal was given a 7.5 min trial period. During this period the number of head dips, rears, locomotory activity and number of faecal boluses were recorded, The time spent in head dipping behaviour was also evaluated.

In long term tests the rats were fed with normal dose of the drug given to human beings, (proportional to the body weight of the rats) for 1 month. 18 rats were selected for the test (9 for set treatment and 9 as the control set).

Heart rate & blood pressure were determined using Rat heart rate & Blood pressure manometer (BP MONITOR, MK-1000-S, Muromachi, Kikai Co. Ltd, Japan).

RBC count: A cut was made at the end of the tail of the rat and blood was sucked into a pipette up to 0.02 ml mark. This was poured into a tube with 4.00 ml of diluting fluid to make 200 times diluted blood.

WBC count: A sample of blood (19 times diluted) was made using the above procedure.

The cell counts for both RBC & WBC were determined using a Haemocytometer.

Differential White blood cell count: A smear of blood was prepared with Leishmann stain. This was examined under the microscope and different types of white blood cells (Lymphocytes, Neutrophils and Eosinophils) were counted.

The above procedures were carried out at the beginning, after 15 days and at the end of the period of treatment for both sets and Statistical Comparisons for all the tests were done using Mann-Whitley U-Test. $p<0.05$ was considered as significant.

In the study of sedative activities, 16 male albino rats, were selected (8 for the treatment, 8 as the control). The drugs prepared as mentioned above (0.5 ml from each), were given to the first 8 animals (The treatment set), morning and evening, daily for 30 days. 1.00 ml distilled water was given as above for the control group. The rat hole board test was conducted for all the animals.

Analgesic activities were determined using the Hot plate Analgesic meter.

In short term tests, the LD_{50} value did not show any significant change, except a slight drowsiness for higher concentrations. In Rat Hole board technique, administration of decoction with 100 times concentration did not show a significant change in most of the activities except for locomotory action which showed a significant reduction.

In long term tests, analysis of the heart rates, RBC, WBC, differential cell count and Hot plate analgesic activities did not show significant changes. In sedative activities, rearing (standing on the hind legs), motor (No. of times of crossing the two perpendicular lines in the box) and faeces were observed as significant.

These experiments reveal the absence of toxicological effects in Rasna saptakaya & Eranda saptakaya. However a slight decrease in sedative activities was observed.

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