

## **The Effect of a Diet Supplemented With Cannabis Sativa Oil, on Dextran-Induced Paw Edema in Rats**

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### SUMMARY

The aim of this study was to examine the effect of a diet supplemented with Cannabis sativa oil, on experimental inflammation, in rat. In this purpose we used an experimental model based on Dextran induced edema.

In our experiment we used 30 Albino rats (170 – 200 g), divided into 3 groups of 10 rats each. The rats belong to the first group (control 1) were feed with standard diet. The rats belong to the second group (control 2) were feed with standard diet and in the last day of the experiment, was treated with indomethacin, 10 mg/kg. The rats that belong to third group (experimental) were feed with standard diet supplemented with cannabis sativa oil (5 ml/100 g).

In the last day of the experiment, acute inflammation was induced by intra-plantar administration of 0,1ml 1% freshly prepared dextran solution into the right hind paw of each rat (1,2). Paw volume of rats were measured prior to administration of phlogistic agents and then at predetermined intervals (30 minutes for 4 hours). Change in paw volume was measured using Vernier calipers and anti-inflammatory activity calculated.

Results were expressed as mean  $\pm$  standard error of mean. Statistical analysis of the data was done using Mann Whitney U test.

The results of our experiment show that the experimental diet very significantly inhibited dextran induced rat paw edema ( $P < 0.01$ ), after 90 minutes, but was less than that produced by Indomethacin. Our results show too, that the experimental diet significantly inhibited dextran induced rat paw edema ( $P < 0.05$ ), after 60, 120, 150, 180, 210 and 240 minutes, but also, was less than that produced by Indomethacin, in the respective time intervals.

It can be concluded that, in our experiment, standard diet supplemented with cannabis sativa oil has a very significantly anti-inflammatory activity against dextran induced paw edema in rats. This effect was manifested very strong after 90 minutes after phlogistic factor administration. But this effect is less than that produced by Indomethacin.

### REFERENCES

1. Murkherjee P. K., K. Saha, J. Das , M. Pal , B.P.Saha (1997). Studies on the anti-inflammatory activity of rhizomes of *Nehembo nucifera*, *Planta Medica*, 63; Pg 367-369.
2. Winter E. A., E. Risley, G.W.Nuss (1993). Carrageenan induced paw edema in hind paw as an assay for anti-inflammatory drugs. *Journal of pharmacology and experimental therapeutics*, 141; 369-373.