

## Beneficial Effects of HiOwna on Haematological Parameters of Charles Foster Rats

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**Abstract** - A new nutraceutical -HiOwna prepared by The Himalaya Drug Company was observed to have significant effect on haematological parameters of Charles Foster rats. It also caused remarkable immunomodulatory effects in the tested animals in our experiment.

**Keywords:** HiOwna, Haematological, parameters, Immunomodulatory effects

### Introduction

HiOwna is a nutritional health supplement for adults which promotes overall health and well being. It contains a combination of herbal ingredients, macro and micro-nutrients that bridge essential nutritional gaps. Macronutrients provide energy, promote growth and development and regulate body functions, while micronutrients meet the additional nutritional demands at various physiological stages. HiOwna is beneficial for reviving physical capacity in convalescing and elderly patients, increasing the fatigue and improving immunity. Many plants were observed to possess antioxidant activity ( Agbor *et al.*, 2012; Jayashree *et al.*, 2003; Shivananjappa and Joshi, 2012).

In our studies, we have seen the effect of nutraceutical HiOwna at different doses on haematological parameters -Haemoglobin, Total Red Blood Count (T-RBC), Haematocrit, Platelet Count and Total

Leukocyte Count (TLC) of Charles Foster rats.

### Material and Methods

#### Test Animals

Fourty Charles Foster rats of both the sexes were obtained from National Laboratory Animal Center, Central Drug Research Institute, Lucknow. They were allowed to acclimate for seven days prior to experimentation. Animals were kept in a controlled environment at the temperature of  $22 \pm 2^{\circ}\text{C}$  and 30-50% relative humidity with a 12 hour light and dark cycle. The rats were fed a standard rodent pellet diet and ad libitum water. These studies were conducted according to the regulations of Institutional Animal Ethics Committee of Central Drug Research Institute, Lucknow.

#### Experimental Procedure

Test animals were divided into four groups of 10 animals ( 5 males and 5 females ) in each group. The dose groups were as follows.

- Group I Control- Distilled Water- 10ml / Kg Body Weight
- Group II 500 mg / Kg Body Weight HiOwna in Distilled Water
- Group III -1,000 mg / Kg Body Weight HiOwna in Distilled Water
- Group IV-2,000 mg / Kg Body Weight HiOwna in Distilled Water

All the animals of Groups II, III and IV were given HiOwna daily for 56 days and were given distilled water only for the entire period of experimentation. Body weight, food and water intakes were recorded at weekly intervals. Haematological parameters- Haemoglobin, Total Red Blood Cell Count, Haematocrit, Platelet Count and Total Leukocyte Count were done at two weekly intervals by using MS 9 Fully Automated Haematology Analyzer.

## Results and Discussion

**Body Weight**:- There was significant increase in body weight of all the HiOwna fed groups of rats as compared to control and it was dose related.

**Food and Water Intakes**:- Food and water intakes in all the treated rats were well comparable to control and within physiological limits of normalcy.

## Haematological Parameters

### Haemoglobin

Haemoglobin values increased in all the rats of HiOwna fed groups as compared to control and it was dose related. Maximum increase was in Group IV and minimum was in Group II.

### Total Red Blood Cell Count

Haematonic effect of HiOwna was seen in all the rats which was evident by increase in count of erythrocytes.

### Haematocrit

It was evident that HiOwna caused increases in haematocrit values of all the animals which was dose related.

### Platelet Count

Increases in platelet counts were seen in all the treated groups of animals and it was dose related establishing increase in count effect of nutraceutical in our experiment.

## Total Leukocyte Count

Remarkable increase in total leukocyte count was observed in all the treated groups of rats as compared to control. This has established that our product is very useful and may help in improvement of immunity of the body defense system.

The chief constituents of HiOwna are *Eleusine coracana*, *Centella asiatica*, *Embllica officinalis* and *Piper nigrum*. These plant parts and active ingredients isolated from these have shown immunomodulatory activity, antioxidant activity, cytoprotective activity, cognitive and memory enhancing activity (Anturlikar *et al.*, 2013).

It was observed that HiOwna, a polyherbal health drink supplement was effective in accelerating postoperative recovery. There was improvement in postoperative parameter like Haemoglobin, WBC count and time taken for complete recovery. Also, there was significant gain in body weight (Roy and Rugvedi, 2012). In another experiment, it was concluded that HiOwna Jr given in addition to regular balanced diet helps to maintain adequate natural linear growth, enhanced immunity and favourably modified cognition in children in children (Palani *et al.*, 2012).

In our experiment, HiOwna fed rats were healthy and active through the period of experiment and also, no adverse effect was observed in any of the animals. Haematonic effect was very well seen with evidence of haematological parameters. Thus, HiOwna is a very promising nutraceutical and is recommended for human use in anaemic patients.

## Conclusion

In our experiments, HiOwna showed very promising haematonic effects in all the rats

of treated groups. This was evident by increases in haematological parameters. Remarkable increase in platelet counts and total leukocyte counts were also recorded. We have also found that HiOwna powder is having significant improvement in management and prevention of arthritis.

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