

PRE CLINICAL EVALUATION OF HAEMATINIC AND HEPATO PROTECTIVE EFFECT OF MANDURA CHENDURAM

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INTRODUCTION

Mandura chenduram (Ferroso ferric oxide) a traditional siddha medicine has been used for centuries as a Hematinic and used to treat diseases such as Anemia, Amenerrohea, Dysmenerrohea, Menorrhagia, Diarrohea and many other gastrointestinal problems. Chenduram means red oxide of Manduram.

Manduram (Magnetic iron oxide) is prepared from iron rust consisting of small particles of iron or forge scales scattered round the blacksmith anvil, when hot iron is beaten on it, these by exposure to air become rusty and brittle then they are considered fit for use.¹

Preparation of the trail drugs

Required raw drugs

1. Manduram (Magnetic iron oxide)
2. Juice of Eclipta prostrata (Karisalai)

Purification method

Commercial Manduram is taken in a vessel and cow's urine is poured into the vessel until the Manduram is sinked, then the vessel is heated until urine completely dries, the process is repeated 10 times. Now Manduram becomes purified.

Preparation method

The purified Manduram is powdered finely in a mortar. This powder is placed in a Mortar and grind with juice of Eclipta prostrata for 6 hours a day. This grinding process is done totally for 3 days. The grinded material is made into small pieces like 1 rupee coin size and kept in a mud plate. This is sealed by another mud plate. A cotton cloth is rolled 7 times around the periphery of the mud plates and sealed with mud paste. This is allowed to dry for one day and kept in pudam containing 50 cowdung cakes. The resultant drug is powdered. The process is totally repeated for 7 times until the powder becomes fine and red in colour (red oxide). Now the drug is ready for therapeutic use.²

Pre clinical Study in Govt Siddha Medical College Palayamkottai, Pharmacological Lab

Preparation of the drug

Mandura chenduram 100 mgm mixed with honey 5 ml and water 5 ml.

Variety of preparations in Siddha system of medicine is well known for its haematinic effects of which mandura chenduram is one of the best. To prove the efficacy of this medicine an attempt was made to study its effect using wistar albino rats. For this purpose, rats were made anemic by the following procedure.

Artificially induced iron deficiency

The wistar albino rats were selected for this experiment, were kept in aluminium cages and provided with drinking water and milk, free from iron. The administration of the iron preparation under investigation was started, when the haemoglobin level falls to 4 to 6 gm\100ml. At the beginning of the experiment Hb% was determined.

Study on rats

The wistar albino rats were 1st divided into 2 equal groups with 3 rats in each group.

The 1st group received milk taken from the cow.

The 2nd group received the test drug at a dose of 20 mg chenduram\ 100 gm body weight.

All the above procedures were continued for 6 weeks at the rate of once in a day.

The haemoglobin levels of rats were measured after 2 weeks, 4 weeks, 6 weeks.

Result

The results observed are tabulated in the following chart.

Table 1:

Group	Drug	Dose\100gm	Hb Initial gm\dl	Hb II Week gm\dl	Hb IV Week gm\dl	Hb VI Week gm\dl
I	Water+cow's milk	2ml	5	4.8	4.8	4.4
		2ml	4.6	4.4	4.2	3.8
		2ml	5	4.8	4	3.6
II	Mandura chenduram	20mg	4.6	5.2	8.2	11.6
		20mg	4.4	5.4	8.4	12
		20mg	4.4	5.2	8.6	11.6

Peripheral smear: Control Group

RBC: Predominantly microcytic hypochromic cells. WBC: Distribution adequate.

Platelets: In clumps. Drug Group

RBC: Normocytic normochromic cells. WBC : Distribution adequate.

Platelets: In clumps.

Discussion

A remarkable raise of Haemoglobin above 11.6 gm\dl is seen in the 2nd group treated with trail drug.

From these studies it is clear that the drug Mandura chenduram has significant haematinic action.

Hepato- protective nature of mandura chenduram

AIM

To analyse the hepato-protective study of mandura chenduram.

MATERIALS AND METHODS

Two groups of Albino rats each consisting of 3 rats were used in this study.

One group of Albino rats received CCl₄ 0.2 ml/100 gm body weight alone and other group received Ccl₄ with trail drug Mandura chenduram.

On the ninth day the animals were sacrificed and liver lobes excised for Histopathological studies.

Histopathological studies

In the Ccl₄ given group there was marked liver damage.

Both the sample shows hepatocytes with lobules of fat vacuoles. In focal areas they coalesce to form fatty cysts.

Few of the hepatocytes are completely replaced by fat vacuoles. Minimal fibrosis was seen extending from portal tract.

In group that received Ccl₄ and drug an over all protection from Ccl₄ damage was observed.

Both the liver section shows normal hepatocytes arranged around central vein with mild dilation.

Sinuses appear dilated with prominent kupffer cells. Portal tracts appear expanded.

These two groups of liver section were compared to the normal Histopathological appearance of the rat liver.

Impression

1. Group A: Moderate to severe fatty changes.
2. Group B: Non specific changes.

CONCLUSION

The test drug shows no significant parenchymal or vascular lesions indicate the Hepatoprotective action against liver damage and also have significant haematinic activity.

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