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Role of Liv.52 in Management of Indian Childhood Cirrhosis

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INTRODUCTION

Indian Childhood Cirrhosis is a disease showed in mystery, since its first description in 1000 B.C. as Mukhmandikagrah and more recently by Sen in 1887. It is almost incurable and hence an unfortunately fatal disease. However, the use of Liv.52 in the therapy of Indian Childhood Cirrhosis along with steroid and other institutional treatment has yielded some promising tests to various workers (Mathur 1957, Paulose 1963, Sheth and Tibrewala, 1968, Vyas 1969 and Singh and Agarwal 1978). The present study was a planned double blind study to observe the role of Liv.52 in management of Indian Childhood Cirrhosis.

MATERIAL AND METHODS

The present study was undertaken on 16 children suffering from Indian Childhood Cirrhosis admitted in the Paediatric Medical Ward of S.M.S. Hospital, Jaipur. Their presenting complaints, physical examination, laboratory and histopathological study was undertaken in each child and entered in a planned proforma. Liv.52 therapy was given along with placebo in addition to steroids and other conventional therapy. These were marked A and B before study. However, the components of the tablets were not made known until after the completion of the study when they were decoded. Seven children received Tablet A and 9 children received Tablet B. All the cases were subjected to the following investigations: Liver functions tests; complete urine examination, specially for bile salts and pigments; liver biopsy for histopathological confirmation. Children were followed up for 5 consecutive weeks. The dose of Liv.52 was as follows:

0-1 year 20 drops t.i.d.
1-3 years 30 drops t.i.d.
Above 3 years 2 tablet t.i.d.

RESULTS

Table 1 shows that 9 children received Liv.52 therapy and 7 children received placebo therapy and served as control.

Table 1: Total number of cases with Indian Childhood Cirrhosis

Cases	Male	Female	Total
Liv.52	7	2	9
Control	4	3	7

Table 2 shows age and sex distribution of children. Eight children were below 1 year of age, of which 5 were male and 3 were females. Eight children were between 1-3 years of age, of which 6 were males and 2 were females. The sex ration was 2.2:1 (Male : Female).

Table 2: Age and sex distribution

Age	Male	Female	Total
0-1 year	5	3	8
1-3 years	6	2	8
Above 3 years	-	-	-
Total	11	5	16

Table 3 shows symptoms and signs in the order of frequency and results after every week of therapy. However, there was no improvement in jaundice, liver size and consistency as compared to control group but there was relief in a few symptoms like distension of abdomen, fever, anorexia, weight loss as compared to control group children.

Table 3: Presenting complaints occurring in Indian Childhood Cirrhosis in order of frequency

Symptoms and signs	Liv.52 Group (Tablet B) No. of cases						Control Group (Tablet A) No. of cases					
	Before	After					Before	After				
		1st wk.	2nd wk.	3rd wk.	4th wk.	5th wk.		1st wk.	2nd wk.	3rd wk.	4th wk.	5th wk.
Jaundice	8	8	8	6	4	3	6	6	6	4	4	4
Distension of abdomen	9	8	6	6	2	2	7	7	7	5	3	3
Fever	7	6	4	0	0	0	6	6	6	4	3	2
Loss of appetite	7	6	4	2	2	1	5	4	4	4	4	4
Yellow coloured urine	9	8	6	5	3	3	7	7	7	5	3	3
Bleeding from the orifices	4	4	3	3	3	2	2	2	2	1	1	1

Table 4(a) and 4(b) show that there was improvement in biochemical abnormalities in Liv.52 group as compared to the control group, specially in SGOT, SGPT, Albumin and Globulin ratio and Alk. Phosphatase.

Table 4(a): Laboratory investigation (Liv.52 Group)

Investigations	Before	After				
		1st wk.	2nd wk.	3rd wk.	4th wk.	5th wk.
S. bilirubin (mg%)	5.6	5.7	5.5	5.3	4.8	3.5
S. Transaminase						
SGOT	95.0	100	90	85	70	70
SGPT	110.5	110	105	98	80	75
Alk. Phosphatase	11.4	10.5	10.0	8.5	7.0	6.5
L.F.Ts.						
Icteric Index	55.6	53.0	50.5	48	40	30.5
Thymol turbidity	4 unit	4	4	3.8	3.2	2.8
Thymol flocculation	++	++	++	++	+	+
Serum Total proteins (gm%)	6.6	6.7	6.8	6.7	6.6	6.8
Albumin	3.2	3.2	3.4	3.4	3.6	3.6
Globulin	3.4	3.5	3.3	3.25	3.2	3.1

Table 4(b): Laboratory investigation (Control Group)

Investigations	Before	After				
		1st wk.	2nd wk.	3rd wk.	4th wk.	5th wk.
S. bilirubin (mg%)	5.2	5.5	5.6	5.8	6.0	6.0
S. Transaminase						
SGOT	90	90	100	100	105	100
SGPT	110	110	120	140	140	130
Alk. Phosphatase	12.0	11.5	11.0	12.5	13.0	13.0
L.F.Ts.						
Icteric Index	53.5	55	60	62.5	65	65
Thymol turbidity	3.6	3.6	3.65	3.85	4.0	4.0
Thymol flocculation	++	++	++	+++	+++	+++
Serum Total proteins	6.8	6.8	7.0	6.75	6.75	7.0
Albumin	3.4	3.3	3.2	3.0	3.05	3.0
Globulin	3.4	3.5	3.8	3.75	3.70	4.0

DISCUSSION

Although therapy of Indian Childhood Cirrhosis unrewarding, symptomatic and biochemical improvement has been reported by various workers (Mathur 1957, Sheth *et al.,* 1968, Prasad 1969 and Dayal 1970).

Vyas (1969) observed that Liv.52 therapy may not be a substitute for diet and other conventional therapy. The addition of Liv.52 to therapy of significant value in cure or relief as judged in 70 children receiving Liv.52 as compared to 67 control children. The author further concluded that the cases that did not respond or expired, showed marked fibrosis with irregular and disorganised pattern. In some, there was promotion of pseudolobules and necrotic changes in liver cells. Prior to treatment, the cases that improved with Liv.52 therapy had showed fibrosis with liver cell destruction and a fair increase in the connective tissue but following treatment with Liv.52, the fibrosis was not well marked. The fibrosis became less evident and in some cases, the liver cells showed enlargement in size, but the picture gave a distinct impression of improvement. Some of the cases showed a decrease in cellular infiltration and necrotic changes and even a return to near normal liver architecture.

Singh and Agarwal (1978) reported good results with Liv.52 therapy in 19 out of 25 cases as judged by improvement in appetite, fever and irritability in 1-2 months. Biochemically, the course of the disease was found to be arrested.

In a double-blind study of 17 malnourished children the present authors observed that Liv.52 therapy along with dietary therapy improves appetite, and increases weight to a greater extent as compared to control children (9 on Liv.52, 8 serving as controls). Albumin and globulin ratios also reverted to normal earlier as compared to control children. So Liv.52 can be safely given as a adjunct to dietary therapy in malnourished children.

The authors have also carried out a double-blind study of Liv.52 therapy in 30 cases of infective hepatitis. Fourteen cases were put on Liv.52 therapy whereas 16 cases were on placebo. Therapy with Liv.52 resulted in earlier recovery and symptomatic improvement as compared to in control cases. The recovery was both symptomatic as well as biochemical.

In the present study, although follow-up biopsy was not possible in any of the child to assess the histopathological changes following Liv.52 therapy, symptomatic improvement was seen in a good number of children as compared to control children. It is therefore concluded that the Liv.52 therapy if started at an early stage, specially in patients having family history of Indian Childhood Cirrhosis, Liv.52 may be of help earlier than when started in late stages.

CONCLUSION

Sixteen children suffering from Indian Childhood Cirrhosis were studied. Nine children receiving Liv.52 along with conventional treatment showed symptomatic relief and improvement in biochemical abnormalities as compared to 7 control children.

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