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Study of Liv.52 therapy in infective hepatitis in children

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INTRODUCTION

Infective hepatitis is one of the common hepatic disorders of infancy and childhood. It is endemic in our country and occasionally assumes epidemic proportion. To date no specific therapy is available for the treatment of infective hepatitis. Liv.52 has been tried in infective hepatitis by various workers and has been reported to reduce the duration of symptoms and the return of biochemical changes earlier as compared to control children. So a double blind study was undertaken to observe the effect of Liv.52 therapy in children suffering from infective hepatitis.

MATERIAL AND METHODS

The present study was undertaken on 30 children suffering from infective hepatitis admitted to the medical paediatric ward of S.M.S. Hospital, Jaipur. Diagnosis was based on typical history, characteristic clinical picture, course and laboratory findings. A detailed history was recorded and baseline biochemical investigations were done in all cases. The biochemical investigations were repeated at weekly intervals for five weeks. Out of these 30 children, 14 were kept on Tab. 'A' (Liv.52) and 16 were kept on Tab. 'B' (placebo) therapy. Decoding regarding Tabs. A and B was done after completion of the study. The dosage of Liv.52 was as follows:

0-1 year	15 drops t.i.d.
1-3 years	2 t.s.f. t.i.d. (syrup)
Above 3 years	2 tablets, t.i.d.

RESULTS

Table 1 shows that 16 children received Liv.52 therapy and 14 children received placebo therapy.

Table 1: Total number of cases

Cases	Male	Female	Total
Liv.52	12	4	16
Control	12	2	14

Table 2 shows age and sex distribution of the children studied. Two children (males) were below 1 year of age. Ten children were between 1-3 years of age and 18 were above 3 years of age. Male to female ratio in the present study was 4:1.

Table 2: Age and sex distribution

Age	Male	Female	Total
0 - 1 year	2	—	2
1 - 3 years	8	2	10
Above 3 years	14	4	18
Total	24	6	30

Table 3 shows presenting complaints in the order of frequency. Jaundice, loss of appetite, yellow-coloured urine, nausea and vomiting were the most common presenting complaints.

Table 3: Presenting complaints in order of frequency												
Symptoms and Signs	Liv.52 Group (Tab. A) No. of cases						Control Group (Tab. B) 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	14	10	4	2	1	-	12	9	7	5	4	4
Loss of appetite	12	6	2	-	-	-	11	9	6	5	3	3
Fever	13	3	1	-	-	-	12	6	3	-	-	-
Distension of abdomen	5	1	-	-	-	-	6	3	2	1	1	1
Yellow-coloured urine	16	10	4	2	2	-	13	10	7	5	4	4
Loss of weight	4	2	-	-	-	-	6	4	3	3	3	1
Nausea and vomiting	10	4	1	-	-	-	8	4	2	2	1	1
Pain in abdomen	7	3	1	-	-	-	4	2	2	-	-	-
Clay-coloured stools	5	2	2	-	-	-	2	2	1	-	-	-
Diarrhoea	-	-	-	-	-	-	1	-	-	-	-	-
Bleeding from orifices	-	-	-	-	-	-	-	-	-	-	-	-
Swelling	-	-	-	-	-	-	-	-	-	-	-	-

After the first week of treatment with Liv.52 as compared to control group, significantly more children had relief in symptoms. After 2 weeks of therapy, relief in symptoms was marked in children receiving Liv.52 as compared to children receiving placebo.

Tables 4 (a) and (b) show that the L.F.Ts. in children receiving Liv.52 returned to normal earlier as compared to children receiving placebo therapy. Although, the course of infective hepatitis is self-limiting in most of the cases, yet it was obvious that Liv.52 did help in restoring the L.F.Ts. to normal significantly faster, as compared to the placebo group.

Table 4(a): Laboratory investigations in Infective Hepatitis (Liv.52 group)							
Investigations		Before	After				
			1st week	2nd week	3rd week	4th week	5th week
Serum bilirubin		4.25 mg%	3.8	2.6	2.0	1.5	1.0
Serum transaminase	S.G.O.T.	100.5	85.0	70.0	50.0	25.0	20.0
	S.G.P.T.	136.5	100.0	65.0	40.0	15.0	10.0
Alkaline Phosphatase		10.2	7.5	6.0	4.5	4.0	3.5
L.F.Ts.	Icterus Index	25.0	20.0	15.0	10.0	10.0	5.0
	Thymol turbidity	4.8	4.0	3.5	3.0	2.0	1.5
	Thymol flocculation	+	+	+	±	—	—
Serum total proteins		7.7 gm%	7.7	7.8	7.8	7.8	7.75
Albumin		4.1 gm%	4.2	4.2	4.2	4.1	4.5
Globulin		3.6 gm%	3.5	3.6	3.6	3.7	3.15

Table 4(b): Laboratory investigations in Infective Hepatitis (Control group)							
Investigations		Before	After				
			1st week	2nd week	3rd week	4th week	5th week
Serum Bilirubin		4.5 mg%	4.0	3.8	3.0	2.5	1.6
Serum transaminase	S.G.O.T.	105.0	100.0	90.0	70.0	50.0	35.0
	S.G.P.T.	135.0	110.0	90.0	65.0	45.0	20.0
Alkaline Phosphatase		9.6	9.0	8.5	8.0	6.2	5.5
L.F.Ts	Icterus index	27.5	25.5	22.0	16.5	12.0	10.0
	Thymol turbidity	5.0	5.0	4.5	4.0	3.0	2.0
	Thymol flocculation	+	+	+	—	—	—
Serum total proteins		7.6 gm%	7.6	7.6	7.7	7.65	7.7
Albumin		4.0 gm%	4.0	4.2	4.2	4.35	4.4
Globulin		3.6 gm%	3.6	3.4	3.5	3.30	3.3

DISCUSSION

Liv.52 is an indigenous herbal drug. That the use of Liv.52 in infective hepatitis leads to earlier improvement in symptoms and early return of biochemical abnormalities to normal levels has been shown with control trials by Sule *et al.* (1968), Arora (1969), Mukerjee and Das Gupta (1970). Observations in the present series also confirm this.

Sule *et al.* (1968) observed that none of the cases treated with Liv.52 showed any untoward side-effects, neither did we observe any during the course of treatment. None of the patients treated with Liv.52 during the period of 3 years reported back with any evidence of post-hepatitis syndrome. In addition, it was observed that cholestasis was greatly relieved by a reduction in the intrahepatic oedema and cellular infiltration. The rapid cellular regeneration was probably due to the effect of Liv.52.

Beneficial effects of Liv.52 therapy have been proved histologically by Mukerjee and Das Gupta (1970).

Arora (1969) in a study of 676 cases observed that the exact mode of action of Liv.52 is still not fully understood. Liv.52 possibly stimulates the hepatic function by reducing the intrahepatic congestion, thereby relieving cholestasis. It is also likely that Liv.52 helps in quicker regeneration of the hepatic parenchyma. Its hepatostimulant, anabolic stomachic, choleretic and diuretic actions are possibly due to the different components of Liv.52. Thus Liv.52 brings about a definite although non-specific protective action on the liver in more than one way.

Sama *et al.* (1976) observed rapid amelioration of clinical symptoms and signs, though the total period of recovery was not materially affected. The response seemed to be very similar to that of steroids, but without the latter's side-effects. Weight loss was also minimum with Liv.52. They concluded that Liv.52 seems to be a useful drug for therapy of acute viral hepatitis. The present study was also a double blind control study and it was observed that the children suffering from infective hepatitis and receiving Liv.52 therapy showed earlier improvement in symptoms including S.G.O.T., S.G.P.T. and also return to normal of the biochemical abnormalities. So it is suggested that Liv.52 therapy should be employed in every case of infective hepatitis, as it leads to earlier improvement. No adverse side-effects of therapy were observed in the present study.

In another series, the authors also studied 16 cases of Indian Childhood Cirrhosis in a controlled study on Liv.52. Nine children receiving Liv.52 along with conventional treatment showed symptomatic relief and improvement in biological abnormalities as compared to 7 control cases.

In a double-blind study of 17 malnourished children the present authors observed that Lvi.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 an adjunct to dietary therapy in malnourished children.

SUMMARY

A double-blind study of Liv.52 therapy in infective hepatitis in 30 children was undertaken. Therapy with Liv.52 resulted in earlier recovery and improvement as compared to children that did not receive Liv.52. The recovery observed was both symptomatic as well as biochemical.

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