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# Liv.52 — A Clinico-Biochemical Trial in Hepatic Cirrhosis

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## INTRODUCTION

Encouraged by the good results obtained by Mukerjee and Dasgupta (1971) in adult cirrhosis of the liver when treated over a prolonged period with Liv.52 (Himalaya Drug Co.) and also our own findings of the drug's usefulness in ineffective hepatitis, we decided to see the effects of Liv.52 in adult cases of decompensated cirrhosis.

Each tablet of Liv.52 contains:

| | |
|---|---|
| Capparis spinosa | 65 mg |
| Cichorium intybus | 65 mg |
| Solanum nigrum | 32 mg |
| Cassia occidentalis | 16 mg |
| Terminalia arjuna | 32 mg |
| Achillea millefolium | 16 mg |
| Tamarix gallica | 16 mg |
| Mandur bhasma | 33 mg |

(Prepared in the juices and decoctions of various hepatic stimulants)

The present trial of Liv.52 has been carried out in 40 adult cases of decompensated cirrhosis to assess its therapeutic response. It was used in addition to the routine treatment. A detailed history of each case included in the trial was taken. Presenting symptoms and signs was noted after a thorough clinical examination.

These 40 cases were put on a mercurial diuretic (Merselyl 2 c.c. I.M. on alternate days) and a standard salt restricted hospital diet. They were divided into two groups A and B, the former comprising of 25 cases and the latter of 15 cases. Group A cases were given 8 tablets of Liv.52 in the dose of 4 tablets b.i.d. for six weeks. Liver function tests were performed before beginning the therapy and after completion of six weeks therapy.

The common presenting signs and symptoms were: anorexia in 40 cases; splenomegaly in 38 cases; weakness in 38 cases; flatulence and abdominal discomfort in 33 cases; feeling of lethargy in 30 cases; nausea in 28 cases, jaundice in 11 cases; hepatomegaly in 10 cases and haematemesis in 3 cases (Tables 1 and 2).

**Table 1:** Common presenting symptoms

| Symptom | No. of cases |
|---|---|
| Anorexia | 40 |
| Weakness | 38 |
| Abdominal discomfort and flatulence | 33 |
| Feeling of lethargy | 30 |
| Nausea | 28 |

| **Table 2:** Common presenting signs | |
|---|---|
| Signs | No. of cases |
| Splenomegaly | 38 |
| Jaundice | 11 |
| Hepatomegaly | 10 |
| Haematemesis | 3 |

In group A, an improvement in the general condition of 20 cases was noted after 2 weeks of therapy and in 3 cases after 4 weeks while the condition of two cases remained unchanged at the end of six weeks. In group B, 4 cases improved in two weeks and another 5 cases improved on completion of six weeks but the condition of six cases remained unchanged.

Lack of appetite (Anorexia) disappeared within two weeks of Liv.52 therapy in 19 cases of group A and after completion of six weeks of therapy in five cases. Only one case in this group still complained of anorexia. In group B, 5 cases regained appetite within 4 weeks of treatment and two cases after six weeks of therapy, eight cases complained of anorexia after completion of trial.

Twenty cases in group A complained of flatulence and abdominal discomfort of which 14 cases improved within two weeks and on completion of six weeks only one case still complained of this symptom. In group B, out of 13 cases 4 improved within two weeks and another three after completion of six weeks treatment. Six patients continued to complain of flatulence and abdominal discomfort.

A feeling of lethargy was complained of by 19 patients in group A and of these 12 cases improved in two weeks and the remaining after six weeks of therapy. In group B of the eleven cases, 3 improved within two weeks while two improved on completion of six weeks and six cases continued to complain of a feeling of lethargy.

Of the 18 cases complaining of nausea in group A, 10 improved after 2 weeks therapy and the rest after completion of six weeks. In group B of the 10 cases, 2 improved after 2 weeks therapy and another 3 after completion of six weeks and in the remaining 5 cases no improvement was observed.
In 3 cases of group A slight regression in size of spleen was noted (less than 2" without haematemesis) while in the remaining 21 cases no significant change in the size of the spleen was found. In group B of the 14 cases with splenomegaly 11 cases did not show any appreciable change in size while in 3 cases the size of the spleen increased by 1-2".

In group A, 9 cases presented with jaundice out of which 6 cases were relieved within six weeks and in three cases jaundice persisted. In group B, 3 cases presented with mild jaundice (serum bilirubin 2-3 mg%) out of which it disappeared in one case and remained unchanged in two cases.

In group A hepatomegaly was seen in six cases. After six weeks of trial liver regressed in 3 cases while in 3 cases the size remained unchanged. In group B all the four cases with hepatomegaly did not show any change on the completion of six weeks trial (Table 3).

| **Table 3:** Response observed in signs and symptoms in the Liv.52 group and Control group | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Total cases | 2nd week | 4th week | 6th week | Total response | Percentage |
| General well-being | Liv.52 | 25 | 20 | 3 | - | 23 | 92.0 |
| | Control | 15 | 4 | - | 5 | 9 | 60.0 |
| Anorexia | Liv.52 | 25 | 19 | - | 5 | 25 | 96.0 |
| | Control | 15 | - | 5 | 2 | 7 | 46.0 |
| Abdominal discomfort and flatulence | Liv.52 | 20 | 14 | - | 5 | 19 | 95.0 |
| | Control | 13 | 4 | - | 3 | 7 | 53.8 |
| Feeling of lethargy | Liv.52 | 19 | 12 | - | 7 | 19 | 100.0 |
| | Control | 11 | 3 | - | 2 | 5 | 45.5 |
| Nausea | Liv.52 | 18 | 10 | - | 8 | 18 | 100.0 |
| | Control | 10 | 2 | - | 3 | 5 | 50.0 |
| Splenomegaly | Liv.52 | 24 | - | - | 3 | 3 | 12.5 |
| | Control | 14 | - | - | - | 0 | 00.0* |
| Jaundice | Liv.52 | 9 | - | - | 6 | 6 | 66.7 |
| | Control | 3 | - | - | 1 | 1 | 3.33 |
| Hepatomegaly | Liv.52 | 6 | - | - | 3 | 3 | 5.0 |
| | Control | 4 | - | - | - | 0 | 00.0 |
| * 3 cases showed increase in size by 1" to 2". | | | | | | | |

## BIOCHEMICAL STUDIES AND OBSERVATIONS

In group A an improvement in total serum proteins was observed in 8 cases. In 3 cases the serum proteins increased in the range 1.5-2.5 gm% while 5 cases improved in the range of 0.5-1.5 gm%. In group B total serum proteins level remained unchanged after a period of six weeks (Table 4).

| **Table 4:** Improvement in serum protein and albumin levels | | | |
|---|---|---|---|
| | Increase in gm% | No. of cases in Liv.52 Group A | No. of cases in Control Group B |
| Serum protein | 1.5 to 2.5 | 3 | Nil |
| | 0.5 to 1.5 | 5 | Nil |
| Serum albumin | 1.0 to 1.5 | 5 | Nil |
| | 0.5 to 1.0 | 4 | 3 |

In group A serum albumin increased in the range of 1-1.5 gm% in 5 cases while in 4 cases these levels improved to 0.5 - 1 gm%. Rest of the cases did not show any significant change. Serum albumin level in group B improved in only 3 cases by 0.5 - 1 gm% (Table 4).

In group A thymol turbidity came down to normal in 2 cases and fell appreciably lower (5-10 units; normal 0-4) in another 8 cases. Slight improvement was noted in another six cases. It was observed that Liv.52 is helpful in lowering the thymol turbidity in these cases. Thymol turbidity did not show any appreciable change in group B (Table 5).

| **Table 5:** Improvement in other liver function tests | | | |
|---|---|---|---|
| | Fall in | No. of cases Liv.52 - Group A | No. of cases Control - Group B |
| Thymol turbidity | To normal | 2 | Nil |
| | Appreciable fall of 5 to 10 units | 8 | Nil |
| | Slight improvement | 6 | Nil |
| Thymol flocculation | To normal | 2 | 1 |
| | +++ to + | 4 | Nil |
| | ++ to + | 6 | Nil |
| Zinc sulphate turbidity | To normal | 3 | Nil |
| | Fall of 10 to 15 units | 7 | Nil |
| Serum alkaline phosphatase | To normal | 4 | 3 |
| | Fall of 13 to 15 units | 3 | Nil |

In the study, group A thymol flocculation became negative in 2 cases while in 4 cases it fell from +++ to + and in 6 cases from ++ to + showing an appreciable improvement in the function of liver after the completion of therapy. In group B cases thymol flocculation became negative in one case while in the rest it remained unchanged (Table 5).

In the study, group A zinc sulphate turbidity reverted back to normal in 3 cases (Normal 4 - 8 units) while in another 7 cases it fell appreciably within 10 -15 units. In group B zinc sulphate turbidity did not show any appreciable change after the completion of six week trial period (Table 5).

In the study, group A serum alkaline phosphatase fell within normal limits (3-8 KA units) in 4 cases while it came down to 13-15 units level in another 3 cases. In the rest it did not show any remarkable change. In the patients of group B serum alkaline phosphatase reverted back to normal in 3 cases while in the remaining it did not change appreciably.

In group A Hb% improved by 4 gm% or more in 6 cases, 3 to 4 gm in 3 cases, 2 to 3 gm in 2 cases, 1-2 gm% in 5 cases and 0.5 - 1 gm % in 5 cases. In 3 cases no significant improvement was found. In contrast to this in group B, Hb% improved in 3 cases by 2 to 3 gm% and in a further 3 cases by 1 to 2 gm % (Table 6).

| **Table 6:** Improvement in haemoglobin percentage | | |
|---|---|---|
| Increase in haemoglobin | Liv.52 Group A | Control Group B |
| More than 4 gm % | 6 | nil |
| 3 to 4 gm % | 3 | nil |
| 2 to 3 gm % | 2 | 3 |
| 1 to 2 gm % | 5 | 3 |
| 0.5 to 1 gm % | 5 | - |

## DISCUSSION

Observations during this trail have led us to believe that Liv.52 (an indigenous drug) acts promptly in improving the general condition, anorexia, flatulence, abdominal discomfort, nausea and lethargy. It probably also helps in the regression of liver but has no appreciable effect on the size of the spleen.

Liv.52 therapy tends to improve liver functions in hepatic cirrhosis. A rise in total serum proteins and its albumin content were observed. Thymol turbidity, thymol flocculation and zinc sulphate turbidity tests also showed an improvement. Serum bilirubin showed a fall.

Another remarkable feature we observed was that patients receiving Liv.52 not only showed a clinical improvement along with liver functions but also had an appreciable rise in haemoglobin percentage.

Although the trial period of six weeks short, it has established that Liv.52 corrects hepatic dysfunction suggesting that prolonged therapy might be an answer to the cirrhotic patients for an improvement in their clinical manifestation and hepatic dysfunction.

## SUMMARY AND CONCLUSIONS

1. A controlled trial of Liv.52 was carried out in 40 adult cases of decompensated cirrhosis of liver.

2. Group A received Liv.52 in addition to routine therapy whilst group B received only routine therapy.

3. In the Liv.52 group markedly superior improvement in signs, symptoms, biochemical liver function tests and haemoglobin content has been recorded.

4. Though the trial period was short (6 weeks against the recommended therapy for 9 months), it has been established that Liv.52 corrects hepatic dysfunction and brings about clinical improvement. The response observed with Liv.52, in this short trial period, clearly suggests that prolonged therapy might be an answer to the therapy of adult cirrhosis of the liver.

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