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Role of Liv.52 in Children with Malnutrition

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INTRODUCTION

Liv.52, an indigenous product of the Himalaya Drug Co. has been widely used by various workers in hepatic disorders for almost 2 decades. A tremendous clinical and biochemical improvement in the liver function tests has been noted by several of them. This beneficial effect of Liv.52 on the functioning of the liver prompted us to try this drug in some other disorders where the main patho-genesis of the disease is different though the liver is secondarily affected. Malnutrition in children is one such group. So widely prevalent are the various syndromes of malnutrition that it is needless to dwell on its clinical picture. Nevertheless, most of the paediatricians are now aware that hepatic changes do occur in children with malnutrition and the disordered liver may hamper rapid clinical improvement after adequate dietetic therapy with proteins and calories is instituted. In our present report we have studied the efficacy of Liv.52 as a supplementary therapy in patients with malnutrition.

MATERIAL AND METHODS

Seventy-five patients of protein-calorie malnutrition attending the Sassoon General Hospitals during a period of 1976-77, were studied for the present report. The diagnosis of protein-calorie malnutrition was based mainly on clinical criteria like hair changes, skin changes, oedema, loss of weight, present of subcutaneous pad of fat at the gluteal, abdominal, buccal and auxiliary regions (assessment by skinfold callipers), hepatomegaly, apathy etc. Grading of malnutrition from 1st to 3rd degree was done by following the criteria described by Gomez. Patients with an associated disease like tuberculosis etc., were excluded from the trial. Before putting the patients on any therapy, investigations like the routine haemogram, urine examination, serum proteins, S. protein electrophoresis were done in all cases. The patients were then divided into 2 groups for the purpose of this trial. The division was done entirely at random as the patients attended the hospital. Trial group was then given routine high protein hospital diet supplementary vitamins and Liv.52 syrup (½ to 1½ teaspoonfuls t.i.d. depending on age). Control group was given the same treatment without Liv.52.

A clinical and biochemical assessment was done routinely on patients in both groups. Immunoelectrophoresis was done in a selected few patients. Antibiotics and diuretics were used wherever necessary in both the groups. Complete clinical and biochemical re-evaluation was done after 6 weeks to assess the improvement with therapy in both the groups.

OBSERVATION

Table I: Age distribution of patients		
Age	Group A (With Liv.52) No. of patients	Group B (Without Liv.52) No. of patients
0 - 1 year	2	1
1 - 2 years	16	15
2 - 3 years	6	8
3 - 4 years	5	4
4 years onwards	9	9
Total	38	37

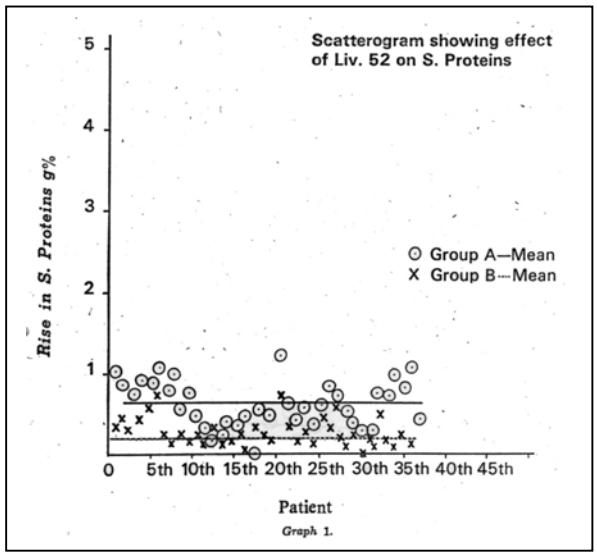
As is evident from Table II, there is statistically significant differences between the onset of recovery in the two groups.

Table II: Results of therapy as judged by clinical parameters			
	Clinical parameters	Group A (With Liv.52) No. of days (Mean)	Group B (Without Liv.52) No. of days (Mean)
1.	Disappearance of apathy	8	13
2.	Disappearance of oedema	22	24
3.	Disappearance of skin lesions	Did not disappear completely in both the groups	
4.	Rise in haemoglobin over 2 g%	11	14

The rise in S. proteins and S. albumin in Group A (with Liv.52) is significantly more than in Group B (without Liv.52). The increased levels of gamma globulins may be due to high laboratory standardisation in this series or may suggest chronic infection (Table III). Graphs 1 and 2 show the rise in serum proteins and serum albumin in both the groups. S.G.P.T. and serum bilirubin were normal in all the patients before and after therapy.

Table III: Results of therapy as judged by the biochemical parameters				
Parameter	Group A (With Liv.52)		Group B (Without Liv.52)	
	Before therapy	After therapy	Before therapy	After therapy
Mean S. proteins	5.46	6.00	4.77	4.80
Mean S. albumin	2.38	2.89	1.96	1.98
Mean S. globulin	3.08	3.11	2.81	2.82

Immunoglobulin analysis in 10 patients each did not reveal any significant difference in levels of IgG and IgM in both the groups. The levels of immunoglobulins were within normal limits in all the patients studied and did not alter after therapy like the general level of globulins.

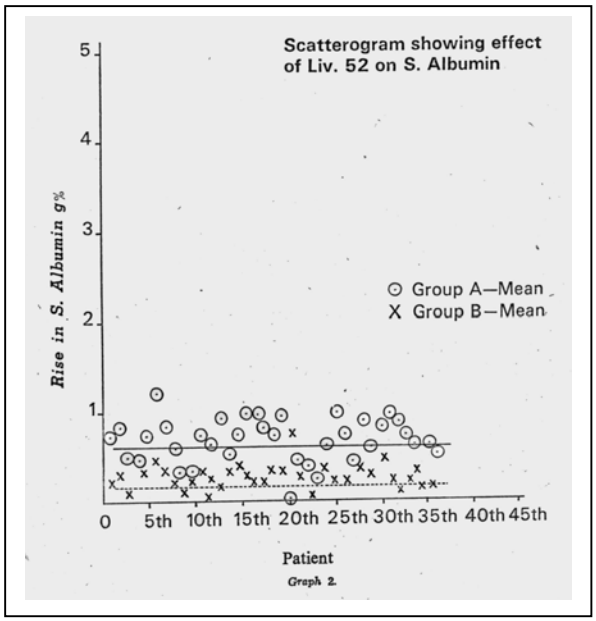


Graph 1.

DISCUSSION

Therapy of malnutrition has so far been restricted to dietary supplementation of vitamins and minerals, relief from oedema, maintenance of fluid and electrolyte balance and control of infection. In the present report an attempt has been made to study the efficacy of Liv.52 in improving the hepatic function and assess its value in the ultimate recovery from malnutrition.

From our clinical studies, it is evident that supplementation of Liv.52 certainly helped these patients of malnutrition. The clinical response worth noting was the disappearance of apathy and appearance of signs of recovery which was much earlier in Group A with Liv.52 as compared to Group B without Liv.52. One patient from Liv.52 group showed interest in surroundings even from the 5th day of treatment. The other symptoms too, like anaemia showed an earlier improvement in the Liv.52 group as compared to the group without Liv.52. It may thus be that the quicker onset of improvement in Group A is due to supplementation by Liv.52, as all the other aspects of therapy were identical.



Graph 2.

Biochemical studies, also revealed certain interesting features. Mean rise in serum proteins in Group A with Liv.52 was significantly more than in Group B without Liv.52 (Table III), thereby indicating that a quicker improvement in protein synthesis of albumin depends upon the hepatic function, particularly when the dietetic regimen is adequate. It is probable that the addition of Liv.52 in Group A resulted in rise in S. proteins and led to a good and quick recovery. S. Globulins and immuno-electrophoresis on immunoglobulins did not show any alteration before and after therapy.

It may thus be concluded that Liv.52 undoubtedly plays a major supportive role in patients with protein calorie malnutrition. Its mode of action may be through improvement in hepatic function or by the appetite stimulating action of the drug. It may be given as a supplementary drug in patients of protein calorie malnutrition particularly those with hepatomegaly and with significantly lowered serum proteins.

SUMMARY

The efficacy of Liv.52 was studied in 75 patients of protein calorie malnutrition of various grades. It appeared that patients on dietetic and other routine therapy with the addition of Liv.52 responded much better than the other group on dietetic and other routine therapy alone. Liv.52 may thus act as a promising supportive drug in the routine therapy of protein calorie malnutrition.

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