

Role of Liv.52 in Alopecia-induced by Radiation and Chemotherapy

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ABSTRACT

One of the undesirable side effects of chemotherapy for malignancy is the onset of alopecia. The fear of permanent loss of hair prompts certain patients, especially females, to either reduce the dosage of drugs or worse, to discontinue further treatment. Even with reassurance that restoration of hair growth is possible after completion of the course, patient compliance cannot be taken for granted.

Based upon experimental evidence about the protective role of Liv.52 against radiation-induced alopecia in mice, this trial was conducted on 70 patients. Thirty eight were on chemotherapy + Liv.52, 7 on external radiotherapy + Liv.52, while the remaining 25 acted as controls.

In those patients who completed their treatment, the rate and amount of hair lost were significantly less than in the control group. This restored confidence in them to become more co-operative and complete their course.

INTRODUCTION

Alopecia is an irritant side effect in patients undergoing chemotherapeutic treatment for various malignant conditions. Out of all the drugs employed, cyclophosphamide, an alkylating agent, is the most widely used. One of its commonest side effects is the rapid loss of hair on the scalp. At times this prompts the patients, especially females in the younger age group, to either reduce the dose of the drug or stop the treatment altogether for fear of permanently losing hair. Various methods have been tried but to no avail and the practice by and large has been to reassure the patient that hair growth will be restored after completion of treatment. Since the treatment has to be continued for a long time, patient compliance cannot be ensured.

This prompted us to try some remedy, which could reduce the incidence of alopecia without compromising the effectiveness of the treatment regimens.

Background Material

Experimental studies conducted on mice by Saini *et al* suggested that mice treated with low doses of radiation and given Liv.52 showed lesser alopecia effect as against the group treated only by radiation. Based upon these findings we launched this trial to assess the protective effect of Liv.52 on hair follicles in patients undergoing chemotherapy.

MATERIAL AND METHODS

Patients undergoing chemotherapy, which included cyclophosphamide as a single agent or in combination, were evaluated by dividing them into three groups.

The first group consisted of 38 patients on chemotherapy plus Liv.52. The second consisted of 7 patients on external radiotherapy and Liv.52, while the third comprised 25 controls to whom Liv.52

was not added to the treatment regimen. The control group also consisted of historical controls treated previously. In all 70 patients were included in our study.

Hair loss was assessed by physical examination and a history of falling off of the hair by the patient herself at the time of combing, mentioning the amount of hair loss.

Chemotherapy Group

Standard regimens of chemotherapy as included in Cyclophosphamide, Methotrexate, 5-Fluorouracil) C.M.F. regimen for carcinoma breast and Cyclophosphamide, Oncovin (Vincristine), Prednisolone (C.O.P.) regimen for non-Hodgkin's lymphoma were administered to Group I. This group also included some patients to whom cyclophosphamide was given along with other drugs like Adriamycin etc., whose side effects are not additive, and those agents which *per se* do not contribute to alopecia.

Radiotherapy Group

In this group were included 7 leukaemic patients undergoing prophylactic irradiation to the cranium at a dose of 2400 CGY.

Liv.52 Administration

Liv.52 was given at a dose of 2 tablets t.i.d. at the start of definitive therapy and continued uninterruptedly for a period of 3 months.

OBSERVATIONS

Chemotherapy Group

Out of total of 38 patients, at the end of one year eight patients died due to the disease process, being advanced malignancies, mainly ovarian tumours (4 cases), advanced breast carcinoma (3 cases) and non-Hodgkin's lymphoma (1 case). Normal life expectancy in these patients could not be otherwise, as world literature suggests. In both groups the disease had advanced to Stages III and IV respectively for ovarian and breast carcinoma and Stage IV for non-Hodgkin's lymphoma.

It was observed that in those patients who completed their treatment, the rate and amount of loss of hair were significantly lower than in the control group. The rate of regrowth and the time required were significantly better than in the controls.

Re-treatment Group

In this group were included those patients who were considered for re-treatment due to recurrence of the disease and had to be continued on Liv.52 as a general tonic. We had 2 patients of ovarian carcinoma who were followed up for more than one year. Both these patients have not shown any manifestation of alopecia when re-started on anticancer regimens comprising Endoxan/Holoxan.



Fig. 1: Scalp of patient A when alopecia had set in before Liv.52 therapy

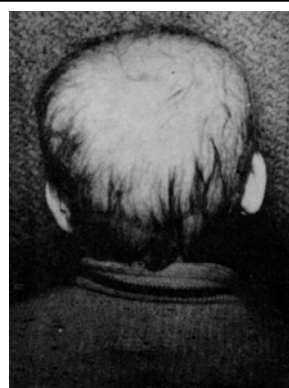


Fig. 2: Photograph of the same patient showing hair growth after Liv.52 therapy

This is an additional finding suggesting that maintaining the patient on Liv.52 impart protection against alopecia due to these drugs.

Radiotherapy Group

The direct effect of gamma radiation on the hair follicles manifests as epilation, which is long established and does not require any documentation. The patients were followed up, and out of 7 patients in this group only two are living at the end of one year. There is no definite evidence that Liv.52 would

improve or reduce the epilation process as compared to the controls.

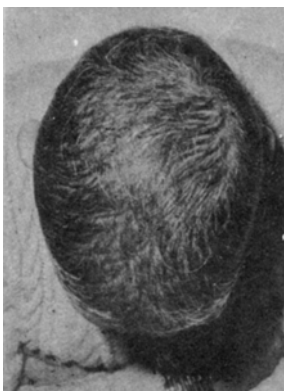


Fig. 3: Scalp of patient B when alopecia had set in before Liv.52 therapy. View from above



Fig. 4: Facial view of the same patient before Liv.52 therapy.

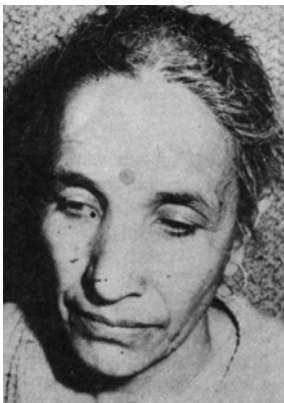


Fig. 5: Scalp of patient B showing hair growth after Liv.52 therapy



Fig. 6: Lateral view of picture No. 5

RESULTS

Photographs of the patients before and after completion of treatment have been taken (Figures 1 to 6). They show the beneficial effect of Liv.52 on regrowth of hair in those patients put concurrently on Liv.52. This was assessed by physical examination, comparison with pre-Liv.52 treatment photographs and history obtained by the patient, mentioning the effect of combing of hair now as compared to pre-Liv.52 treatment.

Growth of hair has been normal and the rate of fall of hair in patients on chemotherapy plus Liv.52 has been significantly lower than in the controls.

It is evident from our study that alopecia due to certain chemotherapeutic agents can be reversed by adding Liv.52 in the treatment regimens of patients especially females. It is in the females that loss of hair is taken as an ominous sign and there is every likelihood of treatment being stopped or reduced for fear of baldness. In the Liv.52 treated group of patients the hair regrowth was better than in controls.

CONCLUSION

On the whole, the restoration of hair growth injected renewed confidence and hope in our patients. This was something they could see for themselves and they became more co-operative and were ready to complete their course of treatment.