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Role of intensive nutrition support in improving serum albumin level and its outcome on healing skin lesions in a Pemphigus Vulgaris patient– A case report

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ABSTRACT

Pemphigus Vulgaris (PV) is a group of rare autoimmune blistering disease of the skin and mucous membranes. Here we report a case of severe pemphigus vulgaris managed well with timely nutritional intervention by the dietician.

Keywords— *Pemphigus Vulgaris, High protein diet, Oral nutritional supplement, Corticosteroids*

1. INTRODUCTION

Pemphigus vulgaris (PV) is commonly referred to as a rare autoimmune disease. It is characterised by blisters and erosions on the skin and mucous membranes. It is the most common type of a group of autoimmune disorders called pemphigus which is life-threatening. The two main types of pemphigus are Pemphigus Vulgaris (PV) and pemphigus foliaceus and PV is accounting for 70% of all pemphigus cases worldwide. Since PV is a life-threatening disease, nutrition becomes a key ingredient in the overall recovery process from the ailment. Effective nutrition support through effective planning and delivery is very important because the oral cavity often gets affected hampering adequate nutrition intake orally. Nutrition plays a very crucial role in the treatment of PV along with medical therapy. Side effects developed as a result of corticosteroid therapy can be significantly addressed through good nutritional support. We here present a case of a 54-year-old male patient who required hospitalization for one month and the nutrition support delivery by the Dietitian enabling reasonably good recovery.

2. CASE REPORT

A 54 year old male a known case of Pemphigus Vulgaris (PV) since 1 year 9 months presented with complaints of exacerbation of skin lesions for 4 months. Before coming here he was treated elsewhere and a biopsy is done then was suggestive of PV and thus was started on oral steroids. He was apparently well 1 year 9 months back until he started developing flaccid bullae over the tongue and buccal mucosa which ruptured to leave erosions. The lesions started increasing in size and numbers which started involving scalp, face, upper limb, groins and lower limb. Since there was the recurrent occurrence of the blisters the patient came to our hospital for further management.

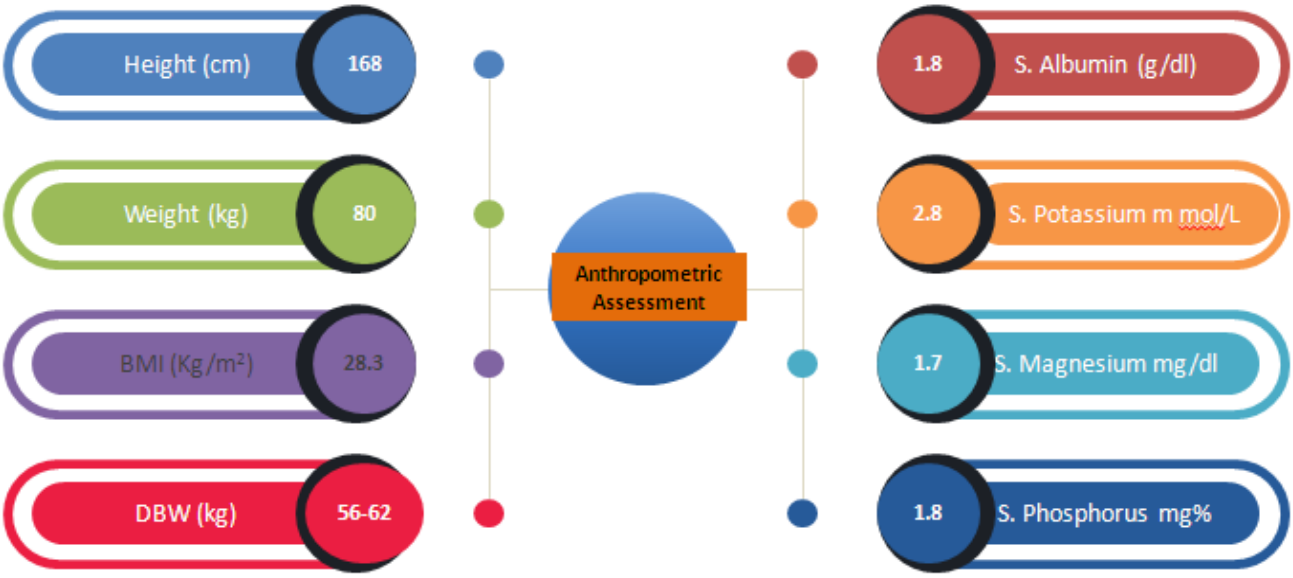
On admission, he had multiple erosions all over the body. Nutritional deficiencies such as low levels of haemoglobin, vitamin D, calcium, potassium, magnesium, phosphorus were observed due to long-term steroid therapy. During the assessment, it was evidenced that he also had loss of appetite.

3. NUTRITION AND DIETETIC INTERVENTION

3.1 Nutrition assessment

Nutritional status is an important factor in healing the lesions. One of the greatest threats to survival for PV patients is recurrent lesions and because of the relationship among nutrition, immunity and wound healing, optimal nutritional support is extremely important to these patients.

Nutrition assessment is compulsory to provide adequate nutrition support. Patient's height and weight details, relevant biochemical parameters were obtained from the hospital record. Patient's usual diet intake pattern was collected. Twenty-four hours dietary recall was done to know the current food intake of the patient. Details of the nutritional assessment are shown in f 1.



Dietary Intake	
Energy	1800 Kcal
Protein	60 gm

Fig. 1: Nutritional assessment

3.2 Nutritional recommendations in the management of PV

Since it is a blistering disease, aggressive nutritional support was required to minimize the protein losses through lesion and to promote tissue synthesis during the healing of cutaneous lesions. The diet should be of high protein for the fast healing of lesions. The recommendation of protein for adults is about 2-3 g/kg body weight.

Corticosteroids are the first line of treatment in PV. Potassium plays a crucial role in the maintenance of fluid in a cell. Long-term steroids might deplete potassium and other minerals. There may be an imbalance of sodium, potassium, calcium and phosphorus which are the elements essential for the normal functioning of major organs, muscle, nerves and bones; hence it has to be appropriately supplemented. Calcium and phosphorous supplements are important for patients on prolonged steroids therapy to preserve bone mineral density.

4. ADMINISTRATION OF NUTRITION SUPPORT

The primary objective was to provide 1800 Kcal diet with 60-gram protein which was his current intake during the assessment. It was decided to gradually step up the calories and proteins keeping in mind the intensity of the disease and his limitations in taking the diet orally**.**

On the 1st day, the patient was given 1800 calorie, 60 gm protein soft solid diet which the patient tolerated well which was continued on the 2nd day also. On the 3rd day, diet was stepped up to 2000 calorie and 75 gm protein through soft solid oral diet. Since there was an increased demand for nutrients due to lesions, it is very difficult to achieve high protein requirement of the patient through solid diets.

On the 4th day, in order to meet the nutrient demand enteral oral nutritional supplements (ONS) was introduced along with soft solid diet to meet up the calorie and protein requirement as the total energy was stepped up to 2300 calorie and 100 gm protein. Out of 2300 calorie, 500 calories and 25 gm protein were achieved through ONS. The same diet pattern with a fusion of semi-solid diet and ONS was continued till the 10th day. Enteral supplements are the most effective source of nutrition support to improve the protein status of patients with PV. Cost effective home-based ONS was planned over commercial supplements to this patient. On the 11th day, total energy was further increased to 2400 Kcal and 120g protein, out of which 600 calories and 45 gm protein were achieved through ONS which was continued till discharge. The patient tolerated well. Stepping up of calorie and protein is shown in stairs figure 2.

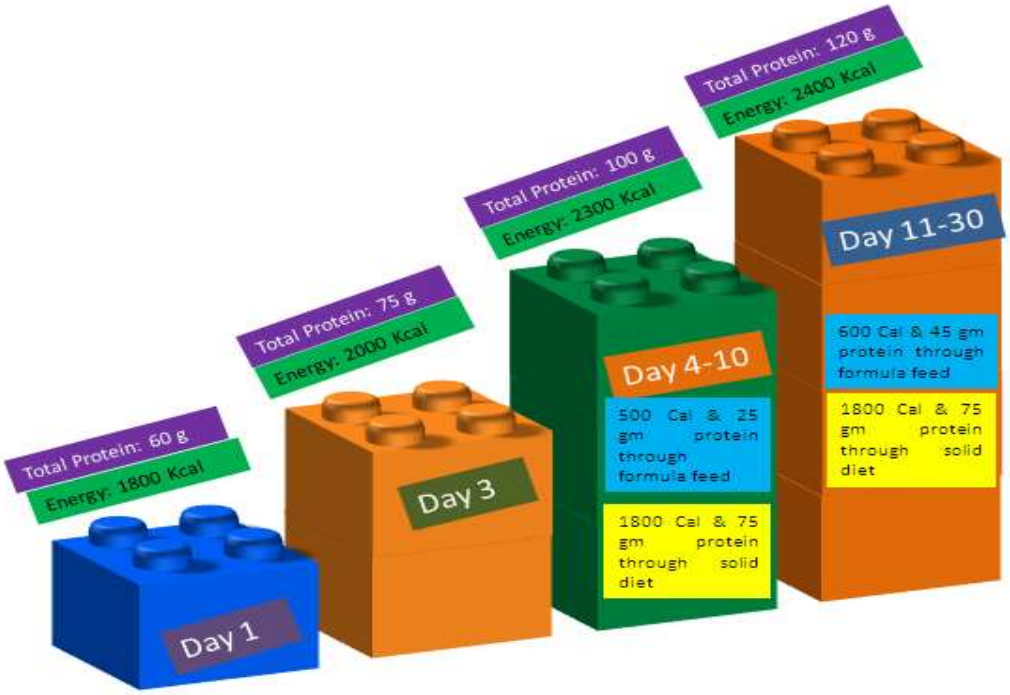


Fig. 2: Stepping up of calorie and protein requirements

4.1 Biochemical Parameters

After the nutritional intervention, there was a remarkable improvement in the serum minerals such as potassium, phosphorus, magnesium which was very low during admission which is shown in figure 3.

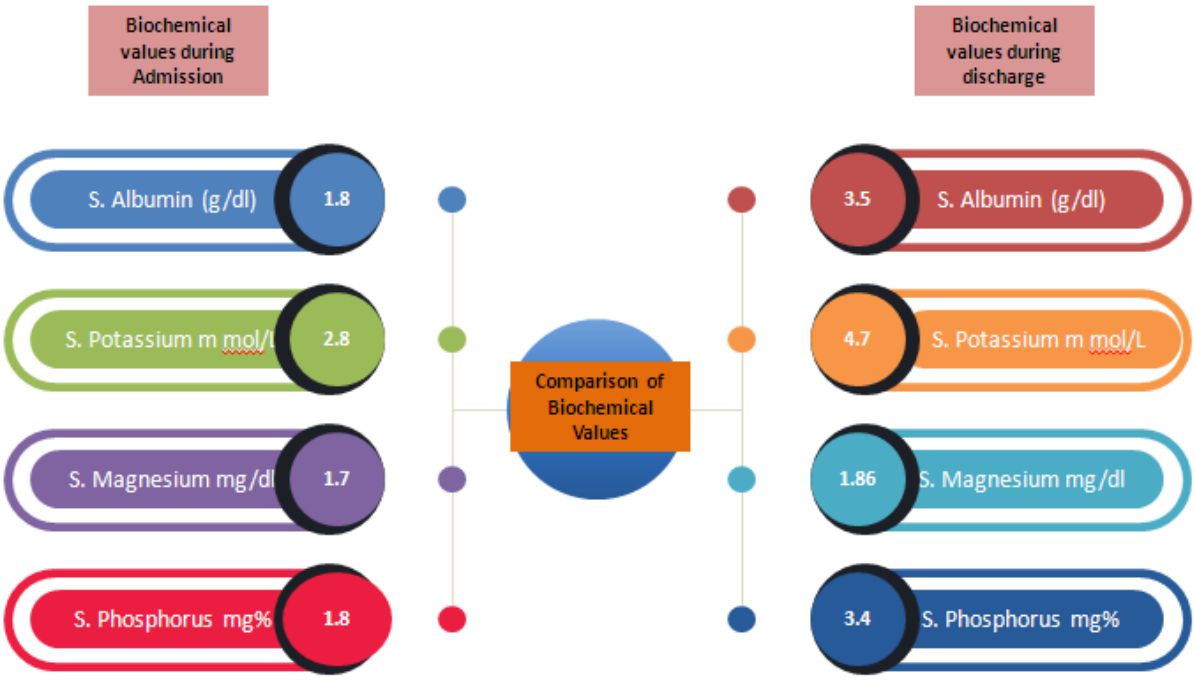


Fig. 3: Comparison of biochemical values before and after nutritional intervention and medical management

5. DISCUSSION AND CONCLUSION

When the nutrition care was handed over to the dietitian, the primary MNT goals were to prevent infections and promote rapid healing and to correct protein status and electrolyte imbalance. Since the patient was deeply upset with the multiple treatments he had undergone elsewhere without any desired outcomes, he was very reluctant to listen to any dietary recommendations made by the dietician. It took a lot of time and effort by the dietitian to convince the patient to follow the dietary advice. The patient was a bit apprehensive when the nutrition intervention was started however slowly the patient gained confidence when the lesions started healing with a high protein diet. The patient was very cooperative with the dietary recommendations thereafter. As a result of which the dietitian could steadily increase the energy and protein as per the recommendations. There were no significant weight changes observed during the course of hospitalization.

High protein home based enteral supplement along with soft solid diet to deliver adequate energy and protein was started and necessary micronutrients supplements were prescribed by the doctor. The patient was closely monitored for intolerances such as diarrhoea; vomiting etc. The patient tolerated the prescribed diet well. At the time of discharge, there was an improvement in his

albumin levels from 1.8 g/dl to 3.5 g/dl. Almost all the skin lesions got healed and no new lesions appeared. Nutritional deficiencies were corrected. He was advised to follow a high protein diet at the time of discharge. His albumin was 4.5 g/dl when he came for review after 3 months.

Early nutritional intervention is essential along with medical therapy for better prognosis of patients with PV. High protein diet not only helps to heal the lesions and also helps to prevent recurrence of new lesions. Timely nutritional intervention is very important to decrease disease progression. The nutritional intervention has to be carefully planned by the dietitian and continuous monitoring helps to titrate the nutritional requirements to meet the demand. Since nutrition plays a prominent role, a dietitian should be essentially part of the multidisciplinary team.

6. LEARNING POINTS

- Timely nutrition intervention is mandatory in the treatment of Pemphigus Vulgaris.
- Effective Diet Planning & close monitoring by the dietitian will improve the outcome
- Good communication skills of dietitians play a vital role in influencing patients
- Dietitian should be part of the treating multidisciplinary team to take care of the nutritional needs to have better results.

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