

Nutritional Management of Burn patients: Our Experience

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Abstract

Objective: Malnutrition is a common problem encountered by burns patients who were prone for prolonged hospitalisation. 'Malnutrition Universal Screening Tool' (Must) has been used as a screening method for early detection, categorisation and institute the intervention of malnutrition in burns patients. We report our experience over one year period. **Methods:** Patients admitted to our Burn Unit over the period 2015-2016 who were all screened and intervened by Must score were identified. Their records were retrospectively analysed for demographic factors, Body Mass Index, severity of burn injury, nutritional status, interventions and outcomes. **Results:** A total of 12 patient's records were analysed. All of them were discharged without any evidence of malnutrition. **Conclusion:** The sample size in our study is much less. However we have not encountered any nutritional imbalance in these patients at the time of discharge using 'Malnutrition universal Screening Tool' (Must).

Keywords: Malnutrition; Burns; MUST.

Introduction

Malnutrition describes excess, deficiency and imbalance of a wide range of nutrients causing adverse outcomes [1]. In general the term malnutrition is used as a synonym for undernutrition [2]. 30%-40% of all patients

admitted are found to be undernourished and are prone to further deteriorate during their hospital stay [3]. Protein malnutrition is common in burns patients who are prone for longer stay in hospital due to hyper metabolic state, loss from raw area, infection, poor intake etc. [4]. Malnutrition affects both physical and psychological functions and delays patient recovery thus increasing morbidity and mortality [5]. So employing a screening method will help in early detection of malnutrition in burns patient and will also reduce the adverse outcomes.

Materials and Methods

This study is a retrospective analysis of thermal burn patient's records who were admitted in burns ward, Jipmer - Tertiary burn care centre and were screened using 'Malnutrition universal Screening Tool' (Must) and intervene dover the period of one year (2015-2016). The analysis was done by collecting the information from medical registration department and hospital information system of Jipmer. Height, weight, Body Mass Index (BMI) and their nutritional status, associated co-morbidities, duration of stay in hospital were noted during admission and periodically during their stay in the hospital. If the patient has no nutritional intake for five days, it was also noted. Any unplanned weight loss during past 3-6 months was noted from patient's old records and from patient's history. Patient's nutritional status on discharge was noted. Total number of patients analysed were 12 ranging from 24 to 65 years of age. Based on the data, risk of malnutrition was categorised and the patients were managed according to Must score. Minimum body surface area involved by burns was 20% and maximum was 65%. All the patient details are described in Table 1.

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Table 1: Patient demographics

Patient No	Age(Yrs)/ Sex(M/F)	Total Body surface area(TBSA) of burns(%)	BMI (kg/m ²)	Acute disease effect	Weight loss score (during stay)	Duration of stay in hospital (Days)	MUST score / Risk level (Low, Medium, High)
1	24/F	40	24	2	2	35	4(High)
2	42/M	35	28	-	2	23	2(High)
3	48/M	30	29	-	2	20	2(High)
4	31/F	50	31	2	2	46	4(High)
5	36/M	30	29	2	1	23	3(High)
6	33/F	55	31	2	2	52	4(High)
7	35/F	40	33	2	2	35	4(High)
8	65/F	15	34	-	2	28	2(High)
9	52/M	35	29	2	2	23	4(High)
10	43/F	40	30	2	2	33	4(High)
11	20/F	20	26	-	1	15	1(Medium)
12	24/F	20	24	-	1	20	1(Medium)

Results

There were 12 cases in the burns ward screened with MUST during the study period. Out of which 8 (67%) were female and 4 (33%) were male. The mean age of the study population was 37.75 yrs. All the patients had BMI >20 and so BMI score was 0 for all the patients. Nearly 60% of patients had acute disease effect or no nutritional intake for more than five days. 75% of patients had weight loss more than 10% and 25% of patients had 5-10% weight loss. According to MUST risk assessment, 83% had score between 2 to 4 and were categorized as high risk. 17% were grouped under medium risk. In our study population there were zero patients under low risk.

Discussion

Burns patients are at a higher risk for developing malnutrition due to their prolonged stay in hospital and this affects the patient's outcome [6]. MUST score was used as a screening tool for early detection and treatment of malnutrition across all health care settings. The malnutrition universal screening tool was developed by the multi-disciplinary Malnutrition Advisory Group of the British Association for Parenteral and Enteral Nutrition [1]. MUST score is an easy and reliable screening tool which uses only 3 criteria namely BMI, Weight loss and Acute disease effect for screening and calculating malnutrition risk [7]. MUST score was noted within 72 hours of admission of burns patient's and the patients were treated accordingly. Patient's with MUST score of 0 were given routine

clinical care and screened again periodically. MUST score of 1 were grouped as medium risk patients and are kept under strict observation. Dietary intake of medium risk patient's was documented for next three days and treated accordingly. Patients with MUST score of 2 or more were categorized as high risk patients. They are referred to dietician and nutritional support was given accordingly [8,9]. All the study patients were screened, categorized and treated based on MUST score. The nutritional status of the patients were analysed based on BMI, Haemoglobin, Serum total proteins, Albumin and Transferrin levels at the time of discharge and found to be satisfactory.

Conclusion

Burns patients are more prone for developing malnutrition. So individualised risk assessment and specific treatment based on their nutritional status are mandatory in reducing the patient's morbidity and mortality. In this study, risk assessment and treatment was based on MUST screening method and the incidence of malnutrition was 0% even in high risk group. The Sample size of this study is small, further large randomized control trials are required to validate the results.

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