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INVESTIGATION OF THE EFFECTS OF ALBUMIN SUPPLEMENT ADMINISTRATION AS A PROGNOSTIC FACTOR FOR MORTALITY AMONG PATIENTS WITH SEVERE BURNS

Dr. mohammadreza Mobayen

Faculty Member of Burn Reconstruction Department

Assistant Prof. of General Surgery

GUMS

Mmobayen@gums.ac.ir

Introduction

- Burns with more than 20%
- inflammatory responses and capillary leakage
- loss of extracellular fluid
- serum proteins (principally albumin)
- soft-tissue edema-induced delayed wound healing, pulmonary edema-induced respiratory failure, and intestinal edema-induced malabsorption

METHOD

- A retrospective study - from **January 2015 to June 2020**
- patients aged 18 Years old or more) with TBSA more than 20%
- **Exclusion criteria** : incomplete data, admission after 24 hours following the burn period, chronic diseases including kidney diseases, nephrotic syndrome, hepatitis, inflammatory bowel, chronic obstructive pulmonary, and blood malignancies
- Then, patients' demographic data, including age, sex, and weight, burn characteristics, laboratory results, and some other complications were evaluated.

RESULTS

98 patients with albumin levels less than 25 mg/kg/%TBSA/day.

- The mortality rate had occurred for 10.2% of patients
- According to the mortality data, there was a necessity for renal replacement therapy. only mechanical ventilation was significant in the two groups
- The serum albumin levels on the seventh day had significant associations with the mortality index. There was a significant association (at P= 0.0001) between the changes' ratio of the seventh day to the first day (the seventh day/the first day) with mortality.

There was no significant difference between the amount of albumin supplementation of HAS in patients and their mortality (P>0.05)

RESULTS

		Count	Column N %
gender	male	63	64.3%
	female	35	35.7%
	Total	98	100.0%
cause	flame	88	89.8%
	scald	10	10.2%
	Total	98	100.0%
mechanical_ventilation	yes	21	21.4%
	no	77	78.6%
	Total	98	100.0%
renal_replecment	yes	3	3.1%
	no	95	96.9%
	Total	98	100.0%

RESULTS

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
age	98	18.00	88.00	36.1020	12.71211
alb0	98	1.50	2.40	2.0306	.20580
alb3	98	1.80	3.50	2.3673	.33144
alb7	98	2.00	3.50	2.5633	.43539
diff_alb	98	-.40	1.50	.5327	.49508
HAS	98	22.00	35.00	29.1735	3.39200
TBSA	98	20.00	36.00	26.3265	4.86048
ABSI	98	3.00	9.00	5.7041	1.37135
HOSPITALIZATION	98	22.00	60.00	39.7041	10.33382
mechanical_ventilation	98	1.00	2.00	1.7857	.41244
urine_output	98	5.00	60.00	40.7143	13.52737
Valid N (listwise)	98				

RESULTS

Group Statistics

	Mortality	N	Mean	Std. Deviation	Std. Error Mean
alb0	yes	10	2.1000	.14142	.04472
	no	88	2.0227	.21103	.02250
alb3	yes	10	2.3500	.34075	.10775
	no	88	2.3693	.33231	.03542
alb7	yes	10	2.1100	.28460	.09000
	no	88	2.6148	.42033	.04481
diff_alb	yes	10	.0100	.34140	.10796
	no	88	.5920	.47567	.05071
HAS	yes	10	27.8000	4.21110	1.33167
	no	88	29.1364	3.62045	.38594

Conclusion

- although serum albumin is a weak nutritional indicator, it can be considered a helpful **prognostic indicator associated with morbidity and mortality**. Intravenous injection of HAS can correct serum albumin levels and may also produce minor side effects.
- Overall, high doses of albumin supplementation to correct hypoalbuminemia in patients with major burns may ***reduce mortality by modifying albumin on the seventh day.*** Therefore, it is suggested that future studies be performed as a clinical trial and challenge the hypothesis of the present study by adjusting the dose of supplemental albumin and examining its effects on serum levels on the seventh day.

THANK YOU FOR YOUR ATTENTION