

Retrospective evaluation of geriatric patients treated at burn intensive care unit

Abstract

Burns in geriatric patients are an important trauma. In this study, it was aimed to evaluate the geriatric cases discharged from burn intensive care unit. Twelve cases of scald and flame burnt, ages of the patients between 65 and over and percentages of the burn damages between %10 and 32%. The sex ratio of patients was male-female and the age of the patients was between 65-87. All the patients had scald and the flame burns. The best way to reduce burn-related mortality in geriatric patients is to protect from burns. Geriatric burn injury; it is mostly a home-based trauma that can be prevented. We think that treatment of severe burned geriatric patients in fully equipped treatment centers will reduce mortality.

Keywords: burn, elderly, intensive care

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Introduction

Senility; is one of the natural and mandatory periods of human life such as childhood, youth, and adulthood.¹ Aging is accompanied by a gradual reduction in the functional reserves of all organ systems. The starting time and size of these changes are very different from person to person. In the large majority of senile patients, physiological compensation is adequate for age-related changes, but limitation in physiological reserves occurs during periods of stress such as exercise, illness and perioperative.² Burn; is an important public health problem that leads to acute morbidity and mortality that requires intensive care and treatment processes that can be seen all over the world. The epidemiological and demographic character of burn injury differs from country to country, but it causes many medical, psychological, social and economic problems in all societies. In our study; demographic data and hospitalization times of 12 patients over 65 years of age who were treated and discharged in our burn intensive care unit (ICU) were discussed in the light of the literature.

Table 1 Summary of case parameters

Age	Sex	Burn percentage (%)	Hospitalization duration (Days)	Additional illness	ABS I	APACHE II
80	M	10	26	DM, HT	7	21
65	M	13	5	DM, HT, CHF	6	20
65	M	20	4		6	18
78	M	24	22		7	20
82	M	32	20		9	20
87	F	15	10	DM, HT	8	15
65	F	20	60	DM, HT, CHF, Asthma	7	20
74	M	28	43		9	15
86	F	15	20		8	18
76	M	10	22		7	21
72	F	15	2	DM, HT, CHF	7	21
79	M	13	3		8	18

DM, Diabetes Mellitus; HT, Hypertension; CHF, Congestive heart failure

Materials and method

Twelve cases of scald and flame burn between 65 and over between 10 and 32% of working age were included. The files of the patients were retrospectively scanned. Patients' age, sex, percentage of burns, duration of ICU admission, APACHE (Acute Physiology and Chronic Health Evaluation) II score and ABSI (Abbreviated Burn Severity Index) score was evaluated. The results were analyzed with the SPSS 22.0 statistical program.

Results

The sex ratio of patients was 8 male-4 female and the age of the patients was between 65-87. All the patients had scald and the flame burnt. The percent of burn varied between 10% and 32% and mean was 17.9 ± 7.0 . Patients' APACHE II score was 7.4 ± 0.99 and ABSI score was 18.9 ± 2.15 . Mean hospitalization duration was 19.75 ± 17.49 days. The datas of the patients were summarized at Table 1.

Discussion

Significant progress has been made in the treatment of burns in recent years, but the improvement of health outcomes in elderly adults with burn injuries is much lower than that of young patients. As with any disease group burn injuries have an important effect on both age and burn formation as well as treatment outcomes. The elderly people are more exposed to burn injuries because of their decreased ability to move along with their advancing age, inability to perform fine motor functions, and decrease in reflexes. Burn in elderly patients; the fourth of deaths related to the causes of injury. Mabrouk et al.³ In their study; reported that 23.7% of elderly patient's abilities to escape and survive were limited and stay unable to move at the scene of accident and this caused increase the severity of injuries in the hospital.³ Necessary precautions should be taken to prevent these preventable complications, such as burning conditions.⁴

In elderly patients; lack of adaptation to each kind of stress and often existing of concomitant diseases affects negatively the treatment of the burn injury and the results of the treatments.⁵ The surgical and medical interventions used remain controversial, and debates are ongoing.⁶ We have observed that the duration of hospitalization is prolonged because of the concomitant disease at 5 of our patients.

There was no consensus in the literature in studies that examine the relationship between gender and mortality in geriatric burn patients. Haberal et al.,⁷ found that male / female ratio of burn patients was 2.6: 1 in their study. Some researchers have reported female gender as a risk factor, but reported no significant relationship between gender and mortality.^{8,9} In the study of Brusselaers et al; male mortality rates that were higher but statistically insignificant compared to women were reported.¹⁰ McGwin et al.,¹¹ determined about the fact of the high mortality in female patients independently from demographic characters, burn etiology and burn severity and put the blame on suppression of cellular immunity after thermal injury and the higher estrogen levels. In our study, 8(66.6) of the geriatric patients were male and 4(33.4%) were female.

There is a consensus in the literature regarding the increase in the total burn area and mortality. It is noteworthy that the mortality rate of geriatric patients with a burn width greater than 50% was observed. In the study of Kurtoglu et al.¹² The percentage of burns of patients was classified as 30-50%, 50-75%, and > 75%, and mortality rates were determined as; 66%, 95% and 100%.¹² Ryan et al. reported that it is an element of risk for the mortality if percentage of the burn injury over %40.¹³ Our facts were the patients who have burn areas between %10 and 32. The longest hospitalization period was the 65 years old female patient with more than two comorbid disease and %20 burn percentage. In the study of the Kala et al.,¹⁴ if the burn injury is less than %50, the approximate hospitalization duration is decreased and the reason of decrease of the hospitalization duration is connected to early period mortalization of patients who has higher burn percentages.¹⁴

Conclusion: The best way to avoid mortality caused by burn injury at geriatric patients is to avoid burns. Geriatric burn damage; is a trauma which mostly occurs at domestic environments and it can be prevented. We believe that the medication of the geriatric patients who have serious burns at fully equipped burn medical centers reduces the mortality.

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Conflict of interest

Author declares that there is no conflict of interest

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