



Outcome of Surgical Treatment of Burn in Elderly Patients in Samarkand, Uzbekistan

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Authors' contributions

This work was carried out in collaboration between all authors. Author BMS designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors HHK and KRT managed the analyses of the study. Author KRT managed the literature searches. All authors read and approved the final manuscript.

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Letter to the Editor

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ABSTRACT

Introduction: Treatment of burns is a health problem, with long hospitalisation stay in both intensive care units and general wards. Elderly burn injuries need to be treated and special considerations are necessary.

Material: In this study, there are presented the results of 396 patients aged 60-92 years, with deep burns who were treated in the Burns Department at the Republican Research Centre of Samarkand Urgent Medical Aid Emergency Medicine Uzbekistan.

Methods and Results: The results of surgical treatment of deep burns were associated with the wide application of active surgical tactics in the overall treatment of burn patients.

Conclusion: This method made it possible to shorten considerably the patient's hospital stay.

Keywords: Elderly; burns and surgical treatment.

1. INTRODUCTION

According to the World Health Organization data of 2002, more than 95% of fatal fire-related burns occurred in low and middle developed countries [1].

Elderly burn injuries need to be treated, and special considerations are necessary. A patients' age is a strong correlation of morbidity and mortality risk. This is often the problem with the majority of burns being caused by carelessness. For the elderly, flame and scald burns, or scalds alone, are the major causes of burns, most commonly occurring at home [2,3].

We aim, through this review, to assess response to deep burn in elderly; the treatment of burns became possible due to active surgical tactics in the treatment of severe burns [4-7].

2. PATIENTS

This study retrospectively followed up 396 patients aged 60-92 years with deep burns. They were treated in the Burns Department at the Research Centre of Samarkand Urgent Medical Aid (RCSUMA), Uzbekistan. Of 396 patients, the most common type of burns were scald and flame burns. Most burn injuries mainly occurred at home, and most of the scalds occurred during food preparation. Observed concomitant diseases were previous myocardial infarction and cerebrovascular accidents in 15.5-17% of cases. Diabetes and alcoholism were caused in 11% of cases.

Of 396 patients admitted to the hospital, 71.3% were in shock. Common fluid resuscitation used The Parkland formulate mean arterial pressure (MAP) and adequate urine output (UOP) as they are the most reliable measures of adequate tissue perfusion. All patients with burn shock underwent general clinical examinations of cardiovascular and respiratory systems, functions of the liver, kidneys and gastrointestinal tract. On admission, acid-alkaline balance, blood haemoglobin, platelets, prothrombin time, partial thromboplastin time, glucose and calcium levels were determined in all patients. All other patients were transferred from other regional hospitals after anti-shock therapy.

3. METHODS AND RESULTS

107 patients, we admitted with deep burns, covering 2-5% of the body surface area and 70

patients with 5-15%. As soon as anti-shock therapy was performed for 4-5 days, tangential excision and skin grafts were applied immediately. Of all patients, 92 healed after the first skin grafts. A second skin grafting was performed in 15 of the patients because the skin graft was lost in some places. Five patients with deep wound areas larger than 10-15% of TBSA died.

Of 130 patients with extensive deep burns of 10-25%, free skin grafting was normally performed on the granulated wound when there it was bright red granulation, a firm with little bleeding on touch and no edema. Skin grafts were performed on granulating wounds with application of a sheet graft, in the following manner: one stage in 30 patients; two stages in 45 patients and three stages in 55 patients (285 operations in all patients).

Of 32 patients with extensive deep burns of 25%, there was used a stamp graft procedure in 17 patients and Moule-Jackson method of skin grafting in 15 cases. To increase the skin grafting potential in patients with limited skin resources, meshed grafts were used in 102 patients and sheet grafts in 130. This method was used in patients with extensive deep burns and in patients with various complications.

Of 317 skin grafts on granulating wounds we found complete healing of the skin graft in 206 cases (65%) and graft survival of 70% in 92 cases (19%). Complete loss of the skin graft was found only in 19 cases (6%). The total outcome among 356 patients was in 64 cases (17.1%). The first bandage was removed on the 2nd or 3rd day after surgery. If the skin engrafted well, we proceeded with physical therapy and remedial exercise after about the 6th day. After that, the patients were discharged from the hospital for outpatient treatment. They were recommended to continue physical therapy.

4. DISCUSSION

Older adults are at an increased risk for unintentional injury. Advances in medical care and longevity have resulted in an increase of the elderly population, and burn injuries in this category of the population are becoming more prevalent. Elderly are more vulnerable to burn injury due to their limited mobility coupled with their physical inability to react rapidly and reach safety when faced with danger. Mabrouk et al. [8] reported, that when caught in a fire, 23.7% of

the elderly collapse, which aggravates their injuries. Albornoz et al. [9] also highlighted decreased protective mechanisms in the elderly due to decreased sensitivity and atrophic skin.

The propensity of elderly patients to burn injuries is accentuated by pre-existing medical problems in conjunction with impaired vision, decreased coordination, and the side effects of medication [10-12]. While children and young adults manifest improved survival rates, elderly individuals suffer from a disparate increase in morbidity and mortality following burn injury [13].

The conservative treatment of deep burn wounds has ceased to satisfy experts for various reasons, such as the practically inevitable probability of the development of purulent-septic complications, the great loss of plasma through the wound surface, etc. Significant successes in the treatment of burn defects became possible due to active surgical tactics in treatment of severe burns [14]. Early excision and skin grafting are proposed by Janzekovic [15], this technique has become established practice. Burdge et al. [16] reported of 12.9% mortality in patients with burns of less than 40% of TBSA. Surgery was required in 47.6% of their patients. The results in the surgical treatment of burns were associated with of active surgical tactics in the overall treatment of burn patients. This method made it possible to shorten considerably the patient's hospital stay.

5. CONCLUSIONS

1. This study followed 396 patients with deep burns in elderly. Significant successes in the treatment of burn defects became possible thanks to active surgical tactics in the treatment of deep burns.
2. The prospects of improved results in the surgical treatment of deep extensive burns in elderly were associated with the wide application of active surgical tactics in the overall treatment of burn patients.

CONSENT AND ETHICAL APPROVAL

As per university standard guideline patient's consent and ethical approval has been collected and preserved by the authors.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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