

Outcome of Burn Management in Bangkok Hospital



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OBJECTIVES. To report the result of major burn treatment in Bangkok Hospital.

MATERIALS AND METHODS. All major burn cases were debrided and dressed with antiseptic procedures and antiseptic cream under supervised teamwork. We retrospectively reviewed all cases from July 2007 to December 2010.

RESULTS. Sixty burn patients, the average age 33.17 year percent of total body surface area (% TBSA) was 34.9, Baux score was 74.93.

CONCLUSION. Mortality was compatible with Baux score.

Major burns require meticulous treatment. In Thailand most cases are treated in public hospitals. This report presents the results of burn care in the Bangkok Hospital where is the only private Thai hospital with a burn unit so far.

Materials and Methods

Major burns were cared for by sequential debridement with surgical knife, scissors and hydrosurgery, for then were dressed initially by silversulfadiazine cream once a day. When exudate was reduced the dressings were changed every 2-3 days, with other silver containing dressings such as hydrofiber with silver or alginate with silver or silver-nanocrystalline. Surgeons, intensivists, pulmonologists, nephrologists, infection specialists, nutritionists, pain specialists and psychiatrists worked together to control the infection and hemostasis of patients, monitoring indicators such as blood albumin, respiration, creatinine and electrolytes.¹ We retrospectively reviewed the record of all major burn patients from July 2007 to December 2010.

Results

There were 62 major burn patients with the average age of 33.17 ± 1 (range from 0.75 to 78). The average percent of total body surface area (% TBSA) was 34.9 ± 1 (range from 1 to 98). The average Baux score (age + %TBSA) was 68.07 ± 1 (range from 10.75 to 142). The average revised Baux scores (age + %TBSA + 17 -if presence of inhalation injury) was 74.93 ± 1 (range from 10.75 to 159). Overall mortality was 14.52%.

The patients who died had larger %TBSA (70.89 ± 1) than survivors (24.61 ± 1) and had higher revised Baux scores (revised Baux scores of patients who died = 112 ± 1 , revised Baux scores of survivors = 58.67 ± 1).

Discussion

Burn management is seeing dramatic progress at the time being, with burn patients being managed under the co-operation of multispecialists, together with improved dressings, improving outcomes. The fluid electrolyte correction, based on calculation of total body surface area and burn area and expressed as a percentage is an important factor to show the area burn and correlation amount of fluid lost. Factors including age, burn size and, and the presence of inhalation injury to the respiratory system have been used to predict management outcomes.

The Baux score is highly correlated with length of stay in hospital and final outcomes. The revised Baux score takes into account the effect of inhalation injury. Patients with inhalation injury would have their score calculated by body area affected + age of patient + 17. The best burn units have revised Baux score of ISO-140. The revised Baux score is more accurate than the original method. Patients with multiple injuries in addition to major burns have the worst prognosis.

Examples of cases with major burn

Severe deep burn



Figure 1: Deep burn with gangrene of right forearm



Figure 2: Deep burn after fasciotomy

High voltage electrical injury



Figure 3: A patient with deep electrical burn at chest wall and left forearm.



Figure 4: Left leg developed gangrene and was sacrificed



Figure 5: Dark myoglobinuria



Figure 6: Four days after debridement

Inhalation Injury



Figure 7: Severe burn with inhalation injury



Figure 8: Inhalation injury, 6 days later still ulcer at bronchus



Figure 9: Inhalation injury with dark sputum

Tar burn



Figure 10: Tar burn injury



Figure 11: After treatment

Conclusion

The mortality was compatible with revised Baux scores^{2,3}, but some of our patients had very severe injuries which are not calculated in revised Baux score. Four of our patients had high voltage electrical injury, all were survived. Two of them had severe muscle necrosis and each lost one of their lower limbs. Two had more than 70% TBSA. Four of our mortalities were related to special situations occurring in accidents over New Year

2009. One died had brain anoxia and eventual brain death. There were 2 patients with severe muscle burns of more than 3 degrees. Another died from lower airway obstruction.

Another mortality was a 2008 plane crash victim which had 90%TBSA burns with severe associated injury, including inhalation injury and multiple open fractures. If our patients hadn't had such severe associated injuries then mortality would have been reduced.

References

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