

INTERNATIONAL ABSTRACTS

THE PRESENT STRATEGY AND PONDERATION ON PREVENTION AND TREATMENT OF BURN SEPSIS AND MULTIPLE ORGAN DYSFUNCTION SYNDROME (MODS)

This paper from China takes an historic look at some of the major advances in the prevention and treatment of burn sepsis and MODS. The authors note that improvements have been made in gaining a better understanding of the pathophysiology of burn sepsis and MODS, in revising the definition of sepsis and MODS, and in prevention and treatment of burn shock. Additionally, improvements have been made in fluid resuscitation in patients with burn shock and in early gastrointestinal feeding to prevent translocation of endotoxins from the gut. Other achievements have been made in using recombinant human growth hormone combined with intensive insulin therapy to control hyperglycemia, and potassium chloride to prevent hypokalemia in order to accelerate protein synthesis. Additional advances include early closure and coverage of the burn wound, rational use of antibiotics, immunological modulation to combat immunological dissonance. Also, advances have been made by using early anticoagulation treatment to prevent coagulopathy. In prevention and treatment of burn sepsis and MODS, comprehensive support for all organs during the course of treatment is emphasized. Although the advances in burn treatment have been extremely encouraging over the last 50 years, burn sepsis and MODS remain the most common cause of mortality in the critical ill. To cope with extreme environmental conditions, such as armed conflict and natural disasters, research is needed to optimize the oral resuscitation regime, and more efficacious treatment strategies that are based on an indepth understanding of the pathogenesis of sepsis.

Chai JK, Sheng ZY
Zhonghua Shao Shang Za Zhi, 24:378-80, 2008.

REVIEW OF BURN INJURIES SECONDARY TO HOME OXYGEN

This paper from Canada considers the issue of burns related to oxygen therapy. The use of long-term home oxygen therapy (HOT) has become increasingly common for treatment of chronic pulmonary diseases. Although illegal to smoke while on HOT, there is an increasing incidence of burn injuries in those patients who smoke while on HOT. The importance of recognition of the prevalence of this injury, the obstacles faced when treating these patients, and understanding the proposed algorithmic approach to be taken with patients on HOT, including prescription, reassessment, and prevention of burn injury are outlined in this review. Retrospective epidemiological data including circumstances, admission, treatment, and disposition were collected and reviewed on the patients treated from 1999 to 2008

with burns secondary to smoking while on HOT. Seventeen patients sustained injuries secondary to smoking on HOT over the 9-year period; 9 patients were female and 8 were male. All the patients were on HOT for chronic obstructive pulmonary disease. Mean patient age was 69.1 ± 2.5 years and mean TBSA $2.8 \pm 0.4\%$; 11.8% (2/17) sustained inhalation injury requiring intubation and 23.5% (4/17) required wound debridement and skin grafting. Mean hospital stay was 42.8 ± 12.5 days; 10.3 ± 5.4 days in the burn intensive care unit and 32.5 ± 11.0 days in the ward. Before the burn injury, 23.5% (4/17) lived in long-term care facilities. On discharge from hospital, 47.1% (8/17) were transferred to extended care facilities or other acute care hospitals, and 11.8% (2/17) died during their hospitalization. After recovery, there was a 35.3% reduction in patients able to return home and/or live independently. A significant number of burn injuries secondary to smoking while on HOT was observed. These patients differ from standard burn patients because they are older in age, have higher rates of inhalation injury, and have much longer lengths of hospitalization, despite smaller TBSA injuries. The authors conclude that prevention of this injury would improve the safety of the patient and those around them as well as healthcare resource allocation. The authors further present a proactive multidisciplinary algorithmic approach which can be used to manage patients on HOT at risk for continued smoking to decrease the incidence and the impact of burn injuries in this patient population.

Murabit A, Tredget EE
Journal of Burn Care & Research, 33:212-7, 2012

METHYLENE BLUE FOR BURN-INDUCED VASOPLEGIA: CASE REPORT AND REVIEW OF LITERATURE

The authors of this paper from the USA report the use of a single dose of methylene blue in a patient with burn-induced vasoplegia refractory to fluids, vasopressors, and steroids. Administration of methylene blue allowed for cessation of epinephrine infusion within 2 hours of administration, and reduction in excessive fluid resuscitation. The patient's clinical course continued for 2 months and was complicated by severe acute respiratory distress syndrome, pneumonia, septic shock, poor skin graft adherence, renal failure requiring continuous renal replacement therapy, cutaneous mucormycosis, and ultimately, withdrawal of care and death. Despite the eventual outcome, this is the longest reported survival following methylene blue administration for vasoplegia secondary to burn injury.

Church JT, Posluszny JA, Hemmila M et al.
Journal of Burn Care & Research, 36:107-11, 2015