

INTERNATIONAL ABSTRACTS

NUTRITION IN SEVERELY BURNED PATIENTS. BETWEEN THEORETICAL GOALS AND PRACTICAL ISSUES

For all medical teams around the world, the care of severely burned patients represents a real problem and this Rumanian paper considers their nutrition as a special additional issue. The patient needs large amounts of protein for tissue repair, acute phase protein synthesis, cellular immunity, and gluconeogenesis. At the same time, the body is losing proteins through exudation and its reaction is to perform a massive breakdown of structural proteins, which means that it is essential to feed the patient correctly as soon as possible. However, in practice, nutrition cannot normally start for at least 12 h post-burn. The general trend is to feed the patients enterally in the first days, but it is not possible to achieve nutritional targets solely in this way and a nutritional deficit may occur. The solution to this problem is to administer parenteral nutrition together with volaemic resuscitation even during transportation of the patient.

Bădică IC

Annals of Plastic Surgery and Reconstructive Microsurgery, 2: 56-60, 2012

HIGH-FREQUENCY OSCILLATORY VENTILATORS IN BURN PATIENTS: EXPERIENCE OF RILEY HOSPITAL FOR CHILDREN

The purpose of this paper from the USA is to review the work of an institution which has wide experience of high-frequency oscillatory ventilation (HFOV). Patient characteristics and outcomes as well as complications are compared with those of other studies of burn patients with acute respiratory distress syndrome and respiratory failure. The study presents a retrospective chart review of burn patients treated with HFOV in a paediatric burn unit from October 1996 to April 2007. It was found that HFOV promotes early and sustained improvement in the condition of severe burn patients and the earlier HFOV is instituted the lower the rates of barotraumas.

Greathouse ST, Hadad I, Zieger M et al.

Journal of Burn Care & Research, 33: 425-35, 2012

EPITHELIAL-MESENCHYMAL TRANSITION, TGF- β , AND OSTEOPOINTIN IN WOUND HEALING AND TISSUE REMODELLING AFTER INJURY

A process which is essential to wound healing and tissue remodelling post-burn is epithelial-mesenchymal transition (EMT). This process shows numerous phenotypic changes in the epithelial cells which make them apolar, with decreased cell-cell adhesions, increased mortality, and changes in cytoskeletal architecture. During the healing process of a thermal burn wound, many factors of wound healing require cells to undergo these changes, of which two are described in this paper. The first is the differentiation of epithelial cells into myofibroblasts, while the second is re-epithelialization by keratinocytes. This paper provides evidence that EMT is a central event in wound

healing, and it will also be shown that a regulated amount of TGF- β is important for wound healing. The paper concludes with a brief discussion about wound healing and its connections to EMT and TGF- β .

Weber CE, Li NY, Wai PY et al.

Journal of Burn Care & Research, 33: 311-8, 2012

IDENTIFICATION OF RISK FACTORS ASSOCIATED WITH CRITICAL ILLNESS RELATED CORTICOSTEROID INSUFFICIENCY IN BURN PATIENTS

The aim of this paper is to consider the risk factors of patients who develop illness-related corticosteroid insufficiency (CIRCI) after acute burn injury. In this retrospective, single-centre case-control descriptive study, the patients had all developed CIRCI. Controls matched for sex, age and burn size were compared considering the clinical characteristics. It was found that CIRCI patients demonstrated significantly greater length of hospital stay, ventilator days and mortality than controls. Patients who had a higher Charlson comorbidity index score were more likely to develop cortisol insufficiency, as also patients suffering from inhalation injury. Pre-existing comorbidities and inhalating injury proved to constitute a significant risk for the development of CIRCI after acute burn injury, since acute burn patients who develop CIRCI presented higher mortality, greater length of stay, and more ventilator days than controls.

Graves KK, Faraklas I, Cochran A

Journal of Burn Care & Research, 33: 330-5, 2012

PATHOGENIC ALTERATION IN SEVERE BURN WOUNDS

This paper defines the trend of time-related changes depending on local alteration of bacterial resistance in severe burns in a burns centre in China. A retrospective analysis was performed of the microbiological results of tests on severely burned patients in the 12-year period 1998-2009. Altogether 3615 microbial isolates were examined. The most commonly found pathogen was *Staphylococcus aureus* (38.2%), followed by *A. baumannii* (16.2%), *Streptococcus viridans* (11.4%), *Pseudomonas aeruginosa* (10.5%), and coagulase-negative staphylococci (9.2%). The species ratios of *S. aureus* and *A. baumannii* increased significantly between weeks 1 and 8, while those of *Streptococcus viridans*, *P. aeruginosa*, and coagulase-negative staphylococci decreased. It was found that Vancomycin continued to be the most sensitive antibiotic against *S. aureus*, including methicillin-resistant *S. aureus*. Most infections caused by *Streptococcus viridans*, *P. aeruginosa* and coagulase-negative staphylococci occurred in the early stages of the burn, while most infections caused by *A. baumannii* were observed four weeks after admission. The major contributor to these trends would appear to be the use of different antibiotics.

Fu Y, Xie B, Ben DF et al.

Burns, 38: 90-4, 2012