

INTERNATIONAL ABSTRACTS

INDUCIBILITY OF HBD-2 IN ACUTE BURNS AND CHRONIC CONDITIONS OF THE LUNG

Numerous molecules are produced in the respiratory tract. These act in the first line of host defence, protecting against pathogenic colonization and tissue invasion. A large part of the innate antimicrobial activity is due to various airway fluid proteins, e.g. lysozyme, lactoferrin, and secretory leukoprotease inhibitor, and peptides, e.g. defensins. Human beta-defensins, which are cationic antimicrobial peptides with a broad, powerful microbicidal activity, help protect the healthy lung from infection. In order to assess the effect of thermal injury on the production of the inducible beta-defensin, human b-defensin-2 (HBD-2), the concentration was measured of HBD-2 by Western blot analysis in bronchoalveolar lavage samples from the lungs of burn patients with and without inhalation injury. The findings demonstrated an increased amount of HBD-2 in the pulmonary airways with thermal injury compared to normal lung. A further considerable increase in levels was noted in chronic lung conditions.

Milner S.M., Cole A., Ortega M.R., Bakir M.H., Gulati G., Bhat S., Ganz T.
Burns, 29: 553-5, 2003

EFFECTS OF A THERMAL INJURY ON BRAIN AND BLOOD NITRIC OXIDE (NO) CONTENT IN THE RAT

This study considers the effects of thermal injury on the nitric oxide (NO)-ergic system in freely moving rats. Use of a voltammetric method that allowed direct and *in situ* NO measurements made it possible to observe a significant decrease in cortical NO concentration during the 24 h following the burning procedure. As halothane was used in the burning procedure, it was verified that this particular anaesthetic did not induce any significant effect on cortical NO levels. Experiments performed in *ex vivo* conditions showed that blood NO and nitrite (NO₂⁻) + nitrate (NO₃⁻) concentrations increased considerably after burn injury, while hypothalamic inducible NO-synthase (NOS₂) mRNA levels were significantly decreased. Thermal injury was thus accompanied by rapid impairment of the NO-ergic pathways, and this may have been in part responsible for the numerous changes occurring after burn injury.

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Burns, 29: 557-62, 2003

VALIDATION OF A NORWEGIAN VERSION OF THE BURN SPECIFIC HEALTH SCALE

The abbreviated Burn Specific Health Scale (BSHS) is an 80-item questionnaire that has proved useful in the measurement of burn survivors' physical, mental, social, and general health. The aim of this study was to adapt BSHS into a Norwegian version (BSHS-N), including the assessment of reliability and validity. Standard translation procedures were used, including discussion with professionals and patients to guarantee conceptual equivalence. A pilot study confirmed

that BSHS-N was clear, comprehensible, and easy to self-administer. Subsequently, 95 adults admitted to the Burn Center, Haukeland University Hospital, between 1995 and 2000 entered a validation study by completing BSHS-N and the general health measure SF-36. Sixty-nine of the 95 (72%) responders completed a retest. It was found that the overall internal consistency reliability (Cronbach's $\alpha = 0.97$) and the test-retest reliability (ICC = 0.95) for BSHS-N were satisfactory. Tests for criterion validity showed the expected patterns for association between comparable domains in BSHS-N and SF-36, with correlations ranging from $r = 0.61$ to 0.81. Tests for construct validity showed that patients with full-thickness injury, patients hospitalized for more than 10 days, patients undergoing more than two operations, and patients who were unemployed at the time of the study had significantly lower total scores than the other patients. It is concluded that BSHS-N is a reliable and valid instrument for use in the Norwegian population. The translation and cross-culture adaptation of this particular instrument suggest the possible interest of comparative international studies.

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Burns, 29: 563-70, 2003

ADULT BURN INJURIES IN AN EMERGENCY DEPARTMENT IN CENTRAL ANATOLIA, TURKEY: A 5-YEAR ANALYSIS

Burns require a multidisciplinary approach, and emergency departments play a vital role in their treatment. The purpose of this study was to consider the epidemiological and clinical characteristics of adult burn patients admitted to an Emergency Department in Turkey and to determine the frequency of patients treated on an out-patient basis and discharged from the Emergency Department. A retrospective review was made of the 314 adult burn patients who presented to the Emergency Medicine Department of Erciyes University Hospital from January 1996 to December 2000. It was found that 64% of the patients were male, the mean age was 32.9 ± 14.7 yr, and 99 patients (32%) had moderate to major burns. The highest number of patients was in the 21-30 years age group. Flame burns were the most frequent cause of burns and admissions (48 and 69%, respectively). Thirteen patients had associated injuries (4%). Eighty-seven patients (28%) were hospitalized, of whom 21 died. Death was mostly due to respiratory failure and sepsis. Domestic accidents were the leading mechanism (63%). Most of the burns were caused by accidents due to carelessness, ignorance, hazardous traditions, and improperly manufactured products. Such accidents can be prevented by nation-wide mass education programmes. If we consider the fact that nearly all burn patients present first to emergency departments and that not all hospitals can employ burn specialists, patients with minor burns can be treated on an out-patient basis, while the treatment of severe burns can be effectively initiated by an emergency physician.

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Burns, 29: 571-7, 2003

EPIDEMIOLOGY OF BURNS PRESENTING TO AN EMERGENCY DEPARTMENT IN SHIRAZ, SOUTH IRAN

A retrospective study was made of 1493 burn patients attending the Ghotbeddin Emergency Burns Centre in Shiraz, South Iran, during the 1-yr period 23 July 2001-22 July 2002 with the aim of describing the epidemiological features of burns in Shiraz. It was found that the mean age of the patients was 21.84 ± 19.05 yr, with an overall male:female ratio of 1.12:1. Forty-one point two per cent of the patients were children under 15 yr, with a male:female ratio of 1.36:1. The main causes of burns were scalds (53%), followed by flame (25%). Scalds were much more frequent among children (70%). Most accidents (81%) occurred in the domestic environment, while 5.2% occurred in the workplace; accidents in the home were more frequent among women. Extensive total body surface area burned presented a significant association with flame burns and sex, showing that female patients were exposed to higher risk of more extensive burns. Burn injury presented a significant seasonal variation, most burns occurring in the winter months.

Ansari-Lari M., Askarian M.
Burns, 29: 579-81, 2003

UNUSUAL COURSE OF TREATMENT OF A PATIENT DIAGNOSED WITH PEMPHIGUS VULGARIS (CASE REPORT)

A case report is presented that describes a patient with the autoimmune disease pemphigus vulgaris. The patient came to a general practitioner 20 days after the first manifestation of the disease. Despite intensive care, the patient died on the 47th day after the first clinical manifestation of the disease of candidaemia. Candidiasis was diagnosed only on post-mortem examination.

Kaloudová Y., Votava M., Říhová H., Suchánek I., Brychta P.
Acta Chirurgiae Plasticae, 45: 83-7, 2003

THE INFLUENCE OF MOISTURE WOUND HEALING ON THE INCIDENCE OF BACTERIAL INFECTION AND HISTOLOGICAL CHANGES IN HEALTHY HUMAN SKIN AFTER TREATMENT OF INTERACTIVE DRESSINGS

This article discusses the problem faced by physicians when they use moisture-retentive dressings in pressure sores (decubitus ulcers). The results are presented of an *in vitro* study using a new model of experimental wound (radio-isotopic investigation) that continuously evaluates the release of Ringer's solution from interactive dressings for 14 hr. An animal experiment is also described that assessed the incidence of wound infection in defects treated conventionally or using interactive dressings. The defects treated with interactive pads had a lower incidence of wound infection, and the wound healing process was rapid. A particular reference is made to four paraplegic patients with decubitus ulcers in whom moisture-retentive dressings were used on the ulcers and the surrounding intact skin before surgical procedure to detect the possibility of maceration of healthy skin. Histological tests were performed in order to detect microscopic changes after moisture healing. The changes in healthy skin were not significant af-

ter treatment of moisture-retentive dressings.

Koupil J., Brychta P., Horký D., Smola J., Prášek J.
Acta Chirurgiae Plasticae, 45: 89-94, 2003

ENDOCRINE CHANGES AFTER BURNS: THE BONE INVOLVEMENT

Major burns are followed by a pronounced endocrine and metabolic response and by an acute phase response. Six and 12 months post-burn, bone involvement was found in 30 burn patients whose bone status was studied after burn trauma with the HOLOGIC 2000 densitometer. The bone mineral density (BMD) of the lumbar vertebrae L1-4 and of the left hip fell significantly in most of the patients. High levels were found of cortisol both in blood and in urine (free cortisol), accompanied by very low testosterone, dihydrotestosterone, and free testosterone levels in the blood of burned males, but not of the females. Elevated 17 β -estradiol levels were found in many burned males but they were not generally low in the burned females. DHEA-S levels were generally low. Very low levels were found of triiodothyronine (T3) and free thyroxine (FT4). Increased (even very high) PTH values were occasionally present. hGH and IGF-1 were generally normal, with a few exceptions (low or increased levels). Total and ionized calcium levels were low post-burn, and 25OH vitamin D (calcidiol) was also usually low or low normal. Prolonged and very high levels of CTX and NTX (indicators of bone resorption and collagen catabolism) were found, as also acid phosphatases, although the latter were less manifest than CTX and NTX. Alkaline phosphatases were also elevated, but the elevation levels were much less pronounced than those of CTX and NTX. Osteocalcin levels were initially low to low normal, increasing later to normal levels. Regarding the cytokines investigated, in most cases high levels were found of TNF α , as also of IL-2, IL-6, and IL-8. In conclusion, some suggestions are made regarding other possibilities in burn treatment, with the use of anabolics, vitamin D, calcium, and possibly calcitonin.

Doľček R., Tymonová J., Adámková M., Kadlček M., Pohlídal A., Závodná R.
Acta Chirurgiae Plasticae, 45: 95-103, 2003

CASE REPORT. CRYOGENIC BURNS FROM AEROSOL SPRAYS: A REPORT OF TWO CASES AND REVIEW OF THE LITERATURE

Cryogenic burns are not common. Two teenage patients are described who presented to a regional burns centre in Wales (United Kingdom) on consecutive days with almost identical burn injuries caused by exposure to a unique source of sub-zero temperature, i.e. spray from an aerosol deodorant. The clinical features and management of the cases are reported, and the mechanism of cryogenic burns is discussed.

Camp D.F., Ateaque A., Dickson W.A.
British Journal of Plastic Surgery, 56: 815-7, 2003