

INTERNATIONAL ABSTRACTS

DIAGNOSIS OF LONG-TERM SEQUELAE AFTER LOW-VOLTAGE ELECTRICAL INJURY

This study set out to assess the efficacy of diagnosis tests and speciality consultations in establishing the diagnosis of long-term symptoms after low-voltage electrical injury (EI). A retrospective hospital chart review of low-voltage electrical-injured patients admitted to the out-patient burn clinic of a rehabilitation hospital was conducted between January 2002 and March 2006. A comparison was made between the results of tests and speciality consultations in patients with low-voltage contact injuries and patients with low-voltage flash injuries. Forty patients were treated for low-voltage EI, all injuries occurring at work. Three patients were excluded due to lack of exact voltage documentation. Of the remaining 37 patients, there were 31 males and 6 females with a mean age of 36.7 ± 11.0 yr and a mean TBSA of $7.7 \pm 7.3\%$. Of 83 specialty consultations, the most regarded psychology (38.6%), psychiatry (21.7%), neurology (15.7%), and orthopaedic (8.4%). Eighty per cent of consultations found no pathology. Patients with electrical contact injury had more specialty consultations, especially neurology and more tests than patients with electrical flash injury. The majority of the CT scans and magnetic resonance imaging scans performed in electrical contact injury patients were negative. Ultrasound, bone scan, and x-rays were also largely negative. Low-voltage electrical-injured patients were therefore frequently found to be referred for specialty consultations and tests which were usually not effective for correlating long-term symptoms with the initial EI.

Fish J, Theman K, Gomes M
J Burn Care & Research, 33: 199-205, 2012

MULTIPLE ORGAN FAILURE AS A CAUSE OF DEATH IN PATIENTS WITH SEVERE BURNS

This Finnish study used medicolegal autopsy reports and clinical records in the Helsinki Burn Centre in order to investigate the causes of death as a result of organ dysfunctions in patients with burn injuries. In the 6-yr period considered (1999-2005) 71 such fatalities occurred, 40% of which were attributed to multiple organ failure (MOF). Death was due to untreatable burn injury in 28 patients. On average MOF patients displayed four main conditions. All the 28 MOF patients had kidney failure, followed by liver damage. Sepsis was in all cases associated with burn lesions as a cause of death.

Kallinen O, Maisniemi K, Böhling T, Tukiainen E
J Burn Care Research, 33: 206-11, 2012

REVIEW OF BURN INJURIES SECONDARY TO HOME OXYGEN BURN

Chronic lung diseases are more and more frequently treated with long-term home oxygen therapy. During HOT therapy the patient must refrain from smoking, but the rule is often ignored. This paper considers the prevalence of this type of injury, the obstacles to treatment, the necessary prescriptions, and prevention. Retrospective epidemiological data are presented. It was found that during the period of time considered a significant number of patients suffered burns due to smoking while on HOT therapy. These patients differed from standard burn patients in that they were older, had a higher rate of inhalation injury, and remained longer in hospital. The review ends with a proactive multidisciplinary algorithm designed to assist in the management of such patients so that the incidence of injuries is reduced.

Murabit A, Tredget E
J Burn Care Research, 33: 212-7, 2012

PULMONARY FUNCTION, EXERCISE CAPACITY AND PHYSICAL ACTIVITY PARTICIPATION IN ADULTS FOLLOWING BURN

The object of this paper is to assess the relationship between pulmonary function, aerobic exercise capacity, and participation in physical activity by adults following burn. Eight burn injured males and 30 healthy adult controls participated. Pulmonary function was assessed during rest by spirometry. An exercise test measuring peak oxygen consumption (VO_{2peak}) and oxygen saturation (SpO_2) was conducted, and physical activity was assessed via the Older Adult Exercise Status Inventory (OA-EI). There was no evidence of any significant correlation between resting pulmonary function, aerobic capacity, and physical activity participation for burn injured patients or controls. Burn patients showed a significantly lower VO_{2peak} ($p < 0.001$) and time to fatigue ($p = 0.026$), and a greater degree of oxygen desaturation during a graded exercise test. Burned patients reported significantly less participation in leisure-related activity > 9 METs ($p = 0.01$), and significantly greater participation in work-related activity than healthy controls. It was established that compromised lung function, decreased aerobic capacity, and reduced participation in leisure-related physical activity may still persist for even 5 years. These considerations need to be taken into account when designing exercise post-burn rehabilitation programmes.

Willis CE, Grisbrook TL, Elliott CM, Wood FM, Wallmann KE, Reid SL
Burns, 37: 1326-33, 2011

5 YEAR ANALYSIS OF BACTERIOLOGY CULTURE IN A TROPICAL BURNS ICU

After five years of research in an ICU where multidrug antigens were endemic, it is concluded that the choice of adequate antimicrobial empirical cover should be made on the basis of the intensity of colonization of the cultures, as shown by the various tests routinely performed. Details are provided as to the particular organisms detected.

Chong SJ, Sakir Ahmed, Tay JM, Song T, Tan T
Burns, 37: 1349-53, 2011

DEFICIENCY OF CX3CR1 DELAYS BURN WOUND HEALING AND IS ASSOCIATED WITH REDUCED MYELOID RECRUITMENT AND DECREASED SUBDERMAL ANGIOGENESIS

A good blood supply is necessary for the development of burn wound healing and appears to be regulated in part by myeloid cells. CX3CR1 positive cells are now known to be myeloid cells with a potential angiogenetic role. This is the first time this role has been investigated. Two categories of transgenic mice (CX3CR1^{+/GFP} and CX3CR1^{GFP/GFP}) received a 2% contact burn in order to make it possible to evaluate the consequences of CX3CR1 functional knockout (CX3CR1^{GFP/GFP}) on burn wound healing. It was found that the effect was a decreased recruitment of CX3CR1 positive cells into the burn wound associated with decreased myeloid cell recruitment, plus reduced maintenance of new vessels and longer wound healing time. This first-time study thus suggests that the chemokine pathway could be useful for therapeutic manipulation as it appears to increase subdermal angiogenesis.

Clover AJL, Kumar AHS, Caplice NM
Burns, 37: 1386-93, 2011

BRÛLURES PROFONDES DES MAINS DU JEUNE ENFANT, PRÉVENTION DES SÉQUELLES PAR PLAQUETTES DE MAIN (DEEP HAND BURNS IN CHILDREN AND THE USE OF SPECIAL PLAQUETTES TO PREVENT SEQUELAE). In French.

The author describes his experience with the use of specially made thermoplastic hand-shaped plaquettes, in three sizes, in order to maintain a position that correctly stretches the burn patient's skin. The system is easy to use and requires little training. The results are particularly good in children who, given their age of constant growth, require particular attention if contractures are to be avoided.

Descamps H
Brûlures, 13: 110-1, 2012

TREATMENT OUTCOMES FOR KELOID SCAR MANAGEMENT IN THE PAEDIATRIC PATIENT

This paper, recommended by Brûlures, was published in Burns, 38: 767-71, 2012.

It is important but not always easy to distinguish between keloid scars and hypertrophic scars. This aspect is discussed with reference to the treatment of 34 burned children, which is reported in detail. It is concluded on the basis of the results presented that children with over 60% body surface area burns should if possible be transferred to specialized paediatric burns centres because of the high risk of the development of complications.

Patel PA, Bailey JK, Yakuboff KP
Brûlures, 13: 111, 2012

PHYSICAL AND QUALITY OF LIFE OUTCOMES OF PATIENTS WITH ISOLATED HAND BURNS - A PROSPECTIVE AUDIT

The purpose of this study was to assess a comprehensive range of outcomes in patients suffering from isolated hand burns in order to establish what might be regarded as "expected". Altogether 52 patients (57 hands) were considered with regard to pain, the Burns Specific Health Scale, return to work or leisure, total active range of motion, grip strength, the Michigan Hand Questionnaire, and scar appearance. Patients presenting burns that could be treated conservatively or with Biobrane® showed rapid recovery, while patients with burns requiring excision and split skin grafting demonstrated a more marked initial physical deterioration and slower improvement.

Williams N, Stiller K, Greenwood J, Calvert P, Masters M, Kavanagh S
J Burn Care Research, 33: 188-98, 2012