

INTERNATIONAL ABSTRACTS

BURNS INDUCED BY CUPPING THERAPY IN A BURN CENTER IN NORTHEAST CHINA

Cupping therapy as a curative skill has been developed and applied throughout history. Despite reports of adverse effects, this therapy is considered to be relatively safe with no systemic reviews documenting negative side effects. The aim of this study was to explore methods that avoid the adverse effects sometimes associated with this therapy. Clinical records of 14 outpatients and inpatients that visited the First Hospital of Jilin University (Changchun, China) for management of burn injuries caused by cupping therapy were retrospectively reviewed. Characteristics, history of injury, and treatment of each patient was collected and analyzed. The authors found that burn injury induced by cupping therapy was not uncommon. Most of the injuries were mild to moderate and cured by conservative methods without severe complications. The use of wet cupping was more prevalent among injured patients than dry cupping. Cupping therapy as an ancient alternative treatment is still popular with a large number of devoted practitioners. Although there is the potential for injury during the application of this therapy, this is mostly preventable. Standardized training for health care professionals and increased awareness among the public about the proper methods to administer this therapy to avoid adverse effects is important.

Jing-Chun Z, Jia-Ao Y, Chun-Jing X et al.
Wounds, 26: 214-20, 2014

EPIDEMIOLOGY OF A DECADE OF PEDIATRIC FATAL BURNS IN COLOMBIA, SOUTH AMERICA

This paper from Columbia is an observational, analytical, retrospective population-based study based upon official death certificate data using diagnosis codes for burns (scalds, thermal, electrical, intentional self-harm and not specified), from January 1, 2000 to December 31, 2009. The aim was to determine the epidemiological characteristics, causes and mortality rate of burn deaths in the Colombian pediatric population as well as to guide future education and prevention programs.

A total of 1,197 fatal pediatric injuries related to burns were identified. The crude and adjusted mortality rate for burns in the pediatric population in Colombia during the length of the study was 0.899 and 0.912 per 100,000, respectively. The mortality rate tended to decrease (-5.17% annual) during the duration of the study. Children under 5 years of age were the most affected group (59.5%). Almost half of them died before arriving at a health facility (47.1%). Fire is the principal cause of death attributable to burns in Colombia, followed by electric burns and hot liquids. This is a first step study in researching the epidemiological features of pediatric deaths after burns. The Public Health's strategies should be oriented toward community awareness about these kind of injuries, and to teach children and families about risk factors and first aid.

Aldana MC, Navarrete N
Burns, 2015

DECELLULARIZED HUMAN AMNIOTIC MEMBRANE: MORE IS NEEDED FOR AN EFFICIENT DRESSING FOR PROTECTION OF BURNS AGAINST ANTIBIOTIC-RESISTANT BACTERIA ISOLATED FROM BURN PATIENTS

Human amniotic membranes (HAMs) have attracted the attention of burn surgeons for decades due to favorable properties such as their antibacterial activity and promising support of cell proliferation. At the same time, the prevalence of bacteria resistant to multiple antibiotics is increasing due to overuse of antibiotics. The aim of this study from Iran was to investigate whether HAMs (both fresh and acellular) are an effective antibacterial agent against antibiotic-resistant bacteria isolated from burn patients. Therefore, a HAM was decellularized and tested for its antibacterial activity. Decellularization of the tissue was confirmed by hematoxylin and eosin (H&E) and 4,6-diamidino-2-phenylindole (DAPI) staining. In addition, the cyto-biocompatibility of the acellular HAM was proven by the cell viability test (3-(4,5-dimethyl-2-thiazolyl)-2,5-diphenyl-2H-tetrazolium bromide, MTT) and scanning electron microscopy (SEM). The resistant bacteria were isolated from burns, identified, and tested for their susceptibility to antibiotics using both the antibiogram and polymerase chain reaction (PCR) techniques. Among the isolated bacteria, three *bla*IMP gene-positive *Pseudomonas aeruginosa* strains were chosen for their high resistance to the tested antibiotics. The antibacterial activity of the HAM was also tested for *Klebsiella pneumoniae* (American Type Culture Collection (ATCC) 700603) as a resistant ATCC bacterium; *Staphylococcus aureus* (*mecA* positive); and three standard strains of ATCC bacteria including *Escherichia coli* (ATCC 25922), *Pseudomonas aeruginosa* (ATCC 27833), and *S. aureus* (ATCC 25923). Antibacterial assay revealed that only the latter three bacteria were susceptible to the HAM. All the data obtained from this study suggest that an alternative strategy is required to complement HAM grafting in order to fully protect burns from nosocomial infections.

Gholipourmalekabadi M, Bandehpour M, Mozafari et al.
Burns, 2015

MANAGEMENT OF BURNS OF THE HEAD AND NECK

This paper from the US concerns burns of the head and neck. These burns, with or without respiratory tract injury, remain a serious and complex problem. Care of patients with this injury requires astute frequent clinical examinations, repeated laryngoscopy or flexible bronchoscopy, and serial laboratory investigations. Superb monitoring and care by the entire burn team with frequent dialogue among the individuals with specialized knowledge, mature clinical judgment in regard to therapy, and long-term follow-up help burn victims survive the injury and achieve the best possible functional ability and cosmetic appearance. There are no simple answers or rote deci-

sions in the management of these injuries. The challenge requires the most innovative and creative care coupled with large amounts of hard work. Many of the recent advances in the management of burns of the head and neck have permitted these patients to survive and have helped them to return as functioning members of society.

Wachtel TL, Frank DH, Frank HA
Head & Neck Injury, 3: 458-74, 1981
Article first published online: 18 JUL 2006

TOPICAL TREATMENT FOR FACIAL BURNS

Burn injuries frequently occur on the head or neck. These areas are central to a person's identity and play a vital role in communication. Other basic abilities such as hearing, smelling and breathing may become affected as a direct result of a facial burn. The authors of this Cochrane review from the Netherlands wanted to assess the effects of topical (surface) treatments for wound healing in facial burns. Examples of topical treatments are antimicrobial creams and ointments and biological, or bioengineered (artificial) skin substitutes. Five small studies were included in the review. Two studies compared two different antimicrobials whilst three compared antimicrobials with skin substitutes. All studies were small and at high risk of bias. There is insufficient reliable evidence as to whether topical treatments improve outcomes for people with facial burns including improved wound healing, rates of infection, the need for surgery, improved appearance of scars, reduced pain, improved overall patient satisfaction, reduced adverse effects, improved quality of life or reduced length of the hospital stay. More research is needed.

Hoogewerf CJ, Van Baar ME, Jenda Hop MJ et al.
Cochrane Wounds Group, 2013

BURNS IN DIABETIC PATIENTS

Diabetic burn patients comprise a significant population in burn centers. The purpose of this study from Iran was to determine the demographic characteristics of diabetic burn patients. Prospective data were collected on 94 diabetic burn patients between March 20, 2000 and March 20, 2006. Of 3062 burns patients, 94 (3.1%) had diabetes; these patients were compared with 2968 nondiabetic patients with burns. Statistical analysis was performed using the statistical analysis software SPSS 10.05. Differences between the two groups were evaluated using Student's *t*-test and the chi square test. $P < 0.05$ was considered as significant. The major mechanism of injury for the diabetic patients was scalding and flame burns, as was also the case in the nondiabetic burn patients. The diabetic burn patients were significantly older, with a lower percentage of total burn surface area (TBSA) than the nondiabetic burn population. There was significant difference between the diabetic and nondiabetic patients in terms of frequency of infection. No difference in mortality rate between diabetic and nondiabetic burn patients was observed. The most common organism in diabetic and nondiabetic burn patients was methicillin-resistant staphylococcus. Increasing %TBSA burn and the presence of inhalation injury are significantly associated with increased mortality following burn injury. Diabetics have a higher propensity for infection. Education for dia-

betic patients must include caution about potential burn mishaps and the complications that may ensue from burns.

Maghsoudi H, Aghammadzadeh N, Khalili N
Int J Diabetes Dev Ctries, 28: 19-25, 2008

BURNS RELATED TO SUNBED USE

This paper from the UK notes that the quest for a year round tan has led to an increase in the use of artificial tanning devices, namely sunbeds. In the UK there has been much debate in the press regarding the dangers of sunbed use and calls for tighter regulation of the industry, particularly the licensing of unmanned tanning salons. The dangers of sunbed use have long been recognised and the body of evidence linking sunbed use to skin malignancy is growing, in fact the Lancet published a review from the International Agency for Research on Cancer classifying UV emitting tanning devices as carcinogenic to humans. At the Welsh Centre for Burns and Plastic Surgery a rise in the number of patients presenting with burns related to sunbed use was noticed. This paper presents the data gathered by the authors surrounding this injury over a 6-year period.

Hemington-Gorse SJ, Slattery MA, Drew PJ
Burns, 36: 920-3, 2010

MAJOR FULL THICKNESS SKIN BURN INJURIES IN PREMATURE NEONATE TWINS

This paper from Lithuania focuses on the subject of burns in premature new born babies. Burns in neonates have been reported following the use of pulse oximeters, various electrodes, chemical disinfecting agents and phototherapy blankets. Burn injuries in premature neonates are very rare and there have been no reports on major full skin thickness injuries. This case reports on preterm neonate male twins delivered at a Community Hospital. After the delivery they were placed on water warmers for 15-20 min and then transported into incubators. Burn injuries were noticed 1h after the delivery. Infant One, weight 1500 g, had an injury of 20% TBSA on his dorsum, waist and buttocks. The other infant, weight 1835 g, had an injury of 14% TBSA on the same areas. The infants were transported to the University Hospital. At the seventh day after the injury they recovered from respiratory distress and surgical procedures started. The eschar was excised deep to fascia and wounds were grafted with 0.1mm thickness skin grafts harvested from the thigh and cut into islets. Autografts were protected by overlay with fresh allograft harvested from the twins' father. Surgery procedures were performed in two steps, each second day, not exceeding 10% of total body area during excision. Donor sites healed at the eighth day after the surgery. Burn wounds healed gradually by way of spontaneous replacement of allograft and wound closure by spontaneous epithelization from the autograft islets. Eighteen days after the surgery all the grafted wounds were found epithelized. The authors conclude that in premature neonates relatively low temperatures may cause deep burn injuries and recommend the delivery of preterm childbirths at well equipped facilities with staff qualified in nursing of premature neonates.

Rimedeika R, Bagdonas R
Burns, 31: 76-84, 2005