A POPULATION-BASED STUDY OF THE EPIDEMIOLOGY OF ADULT AND PAEDIATRIC BURNS IN TURIN, ITALY, OVER FOUR YEARS (240)

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Introduction: Burns are a major public health problem affecting adult and paediatric populations. In Turin the Department of Plastic Surgery-Burn Unit at CTO Hospital and the Division of Pediatric General Surgery at Regina Margherita Children’s Hospital are the two regional Burn Centers for the treatment respectively of adult (age ≥ 15 years) and paediatric (age ≤ 14 years) burned patients. The purpose of the study was to conduct a retrospective epidemiological analysis of all paediatric and adult patients admitted to the Emergency Department of the two regional Burn Centers over a period of four years (2011-2014). Burn data of 2014 are actually analyzed and will be presented during the Congress.

Methods: we analyzed demographic, etiologic and clinical data of 1020 adult and 535 paediatric burned patients. Age, gender, demographic characteristics, etiology, burn degree, total body surface area percentage (% TBSA), care strategies, outcome and mortality were recorded.

Results: Burned children admitted to the Paediatric Emergency Department were 158 in 2011 and 189 respectively in 2012 and 2013. Adult burned patients were 354 in 2011, 359 in 2012 and 307 in 2013. In paediatric population 375 patients (70%) were ≤ 5 years old; out of these, 40% were younger than 2 years and 56% were male. In adult population the mean age was 49 years with no significant difference between genders. Remarkably, among minor burns, a large number of adult patients (45%) was admitted to the Emergency Department after a mean delay from the injury of 4 days. Hot liquids (40%) and contact with hot objects (23%) resulted most common causes of burn injuries in children and the majority occurred at home. Also in the adult population, scalds (cooking) were the most common cause of burn injuries (45%), followed by flame, 33% (e.g brushwood burning; alcohol use to light stove), contact burns (15%), caustic (5%) and electrical burns (2%). In children burns of upper limbs (55%) and abdomen/thorax areas (28%) were prevalent. In adult population upper (49%) and lower limb (32%) resulted the most common involved areas. After admission to the Emergency Department 304 children (57%) were treated in an outpatient setting, 66 (12%) required hospitalization, 30% needed surgery and 1 patient died. In adult population 207 patients (20%) required hospitalization (58% needed surgery), with a mean % TBSA of 20%; 35 adult patients died (3%) with an average age of 60 years and a mean % TBSA of 38%. Flame burns were responsible of 80% of mortality.

Conclusion: Epidemiological studies provide important contributions to identify potential areas of prevention and to improve the care of burn-injured patients. In our epidemiological analysis very young children and older individuals resulted most vulnerable respectively to the morbidity and mortality of burn injury. Scald and flame burns resulted to be commonly a result of preventable domestic accidents. In our opinion prevention strategies targeted to individuals older than 60 years and children younger than 5 years should be developed. Finally the observation of the large number of children treated in an outpatient setting shows the importance to develop effective care protocols shared with peripheral hospitals, to limit the access to the regional burn centre to selected and complex cases, requiring a specialististic evaluation and management.