

EPIDEMIOLOGY OF HAND BURNS IN CHILDREN ADMITTED TO THE LIÈGE UNIVERSITY HOSPITAL BURN CENTER DURING THE PERIOD 2000-2012 (066)

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Introduction: A retrospective study specifically dedicated to hand burns was undertaken in a pediatric population referred to the Burn Center Liège University Hospital during the period 2000-2012. Our aim was to analyze the epidemiologic distribution of this kind of burn with potential risk of functional and aesthetic sequelae, particularly in children.

Methods: Inclusion criteria were age ≤ 15 years and burns to a single or both hands, with or without involvement of one or several other anatomical site(s). Age and gender, burn etiology and location, burn severity, affected total body surface area (TBSA), duration of wound care or hospitalisation and type of complications were obtained by retrospective analysis of medical records.

Results: In the overall children population ($n = 583$), the mean age was 4.2 years, nearly the half (48.8%) were ≤ 2 years old and 73.4% were ≤ 5 years old. In our series, 61.6 % were boys; the male/female ratio was 1.6: 1. The predominance of boys over girls was observed in all age categories, but particularly in the 1-2 years old (male/female ratio 1.7:1) and the 8-15 years old (male/female ratio: 2.6:1). A majority of children (66.0%) had burns exclusively to the hand(s), whereas one or several other sites were involved in 34.0% of the cases, particularly on the upper limbs (43.5%) and face (14.7%).

Globally, contact burns (59.3% of the cases) and scalds (23.8%) were the two most frequent causes of hand burns, followed by flame burns (12.7%). Other etiologies accounted for less than 5.0%. It appeared however that contact and scald burns were by far the most common causes of hand burns in children under 5 years old (95.4%). In contrast, flame was the main cause of hand burns in those between 8 and 15 years old (49.1% in this age category).

There was a strong association between burn location and etiology. Contact burns were nearly exclusively restricted to the hands, with another anatomical site involved in only 10.8% of the cases. In contrast, one or several anatomical sites were involved in addition to hands in 70.0% of scald or flame burns. This was consistent with markedly less extensive burns (96.2% with TBSA $<3\%$ and no patient with TBSA $> 5.0\%$) in contact burns in comparison with scalds (34.6% with TBSA $<3\%$ and 53.1% with TBSA $>5\%$) and flame (17.6% with TBSA $<3\%$ and 70.6 % with TBSA $>5\%$). Lesions were markedly less severe in scald (1.2% of third degree burns) and contact burns (3.5% of third degree burns) in comparison to flame burns (12.8% of third degree burns). The most severe lesions were observed after electrical burns (71.4 % of third degree burns).

Duration of treatment averaged 10.5 days; topic care was applied in 95.1% of the patients and grafts were needed in 4.9% of the children. The main complications were contractures ($n=15$) and hypertrophic scars ($n=11$).

Conclusion: In the Liège hinterland, contact burns were predominant in infants and toddlers, scalds being the second cause of burns in this age class. In contrast, a majority of adolescents suffered from flame burns leading to more severe lesions. Prevention campaigns should specifically target these two age groups.