**INTENSIVE AND HIGH-DEPENDENCY CARE FOR PAEDIATRIC BURNS: A COLLABORATIVE EXPERIENCE**

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**BACKGROUND:**

This is a retrospective analysis of 160 paediatric patients admitted to a tertiary referral Pediatric ICU and to a Paediatric Burn High-Dependency Unit from 1 January 2009 to 31 Dec 2011. Patients care was performed under strict collaboration between the 2 units.

**METHODS:**

Through an electronic database of medical records of both institutions, all admitted patients were traced. Clinical course and interventions were followed both in PICU and in the HDU until home discharge

**RESULTS:**

From 2009 to 2011 a total number of 160 paediatric patients – aged 10 years or less - suffering from burn injury were admitted to both institutions. There were 28 patients admitted directly to PICU, median age was 16mths (IQR 12.2-19.0), M/F ratio was 1.6; median TBSA was 12.5 ( IQR 9.7-20.0); 12 pts (46.1%) had TBSA >15% and 13 patients (50%) had face burns. 4 pts had flame burns (15.3%) whereas the remaining had scald burns. As a whole, 14 pts (53.8%) underwent tracheal intubation. Regarding intensive care length of stay, 11/26 (42%) pts had a PICU stay > 7 day and a MV time > 24 hrs (median 7 days, IQR 4, 18). Ventilated patients had a median PICU stay of 13 days (IQR 8,26), whereas median PICU stay was 4.5 days (IQR 2,13) for the entire PICU population. A strict correlation between TBSA% and PICU stay was evidenced during the study period (Pearson r 0.64, *p 0.0004*). However, for patients requiring more than one week PICU stay, the correlation was found with mechanical ventilation need more than with TBSA%.(Pearson r 0.98, p 0.0001 vs r. 0.47, *p 0.13*). Seven patients were affected by ALI/ARDS and needed prolonged respiratory support, while 5 patiens underwent severe sepsis/septic shock episodes. There were no fatalities in this series. Patients admitted to Paediatric Burn High-Dependency Unit were 132 , median age 22 mths (IQR 15;31), M:F 1.25, median length of stay 6 days (IQR 3; 11 d), median TBSA 6.75% (IQR 4; 13). Eventually, plastic surgery procedures were needed by 84% and 52% of PICU and High-Dependency Unit patients, respectively.

**CONCLUSIONS:** The reported experience can represent a model of interaction between a referral adult/paediatric Burn Unit and a tertiary paediatric Trauma Center. Patients were referred over 24 hours both by route and by heliambulance. As recently demonstrated, the availability of a multidisciplinary pediatric ICU with full-time pediatric intensivists is likely to offer better care than ICU beds in a mixed or general unit. Of main relevance, according to a predefined protocol, the same surgical team was involved in burn management at both institutions.