

Data on paediatric burn mortality from a single centre over 32 years

J. Bartková, B. Lipový

Department of Burns and Plastic Surgery, University Hospital Brno and Faculty of Medicine, Masaryk University, Brno, Czech Republic

Dear Editor,
burn injuries are among the most devastating injuries in general, affecting not only all age groups but also all geographical areas in the world. In addition causing morbidity and mortality, they also have enormous economic, psychological and somatic impacts with long-lasting consequences. Continuous developments in burn treatment have significantly improved burn management and quality of care worldwide [1]. In Europe, the paediatric population still constitutes a high proportion of burn inpatients [2–4].

In this letter, we would like to present the gradual changes in the epidemiological data over the years from a single burn unit, illustrating the continuous improvement of care dedicated to severely burn paediatric patients in the Czech Republic. We analysed the burn injuries-associated paediatric mortality data from the intensive care unit of the Department of Burns and Plastic Surgery University Hospital Brno, Czech Republic, between 1 January 1990 and 31 December 2022. Over the 32 years, 9 paediatric deaths caused by burn injuries were recorded. To better illustrate the evalua-

tion of the observed period, we divided it into 2 periods: the first period from 1990 to 1999 and the second one from 2000 to 2022. During the first period, 7 paediatric patients had fatal burns (5 of them had burns on more than 60% of the total body surface area (TBSA). During the second monitored period, only 2 patients suffered fatal burns, both on more than 60% TBSA. There was a difference in the number of paediatric burn deaths over the years; this number was higher in the 1990s compared to the period after 2000 when only 2 paediatric deaths were recorded. It's important to realize that most of the fatal burns (77.8%) in both periods were on more than 60% TBSA. In the 1990s the size of the extent of burns, in 5 patients was more than 90% TBSA. Such patients are in direct danger of life and require intensive care in specialized units, which not only emphasizes the severity of their injuries, but also confirms the life-threatening condition for these patients, and thus reduces the possibility of further survival. The majority of these patients died within 1 week of injury (Tab. 1). Multi-organ failure (44.4%) followed by burn shock (33.3%) was the most common cause of

death. In a majority of these patients, the condition was further complicated by inhalation injury (55.5%). The male:female ratio in paediatric deaths was 0.8: 1, the differences between sexes are negligible. The average age of paediatric patients who died during the observed period was 8 years. Accidental burning (88.9%) was the most common injury mechanism leading to these deaths in both observed periods. In the presented data, the most common causative agent of burn was flame (55.5%), followed by electrical burns (22.2%). In a minority of patients, chemical burns (11.1%) and scalds (11.1%) were the etiological agents. We attribute that mainly to the superficial nature of scalds not leading to death and also to improved medical care over the period of time. The highest incidence of paediatric burn trauma leading to death was observed in the spring (44.4%), followed by summer (33.3%). The incidence was higher during weekdays (100%) than during weekends (0%), with the maximum on Tuesdays (44.4%).

We attribute mortality data over the last 2 decades mainly to the constantly improving quality of care, but in addition also to the continually improving prevention. Several organizations in the Czech Republic, such as well-known "Pospalky", "Burn fighters", "Bolí to" and others, are dedicated to the constant education of the public and improving the awareness of the dangers and preventative measures in adults and, especially, the children population. The majority of burn injuries can be prevented. In fact, epidemiological studies and mor-

Tab. 1. Numbers of paediatric burn deaths in relation to the time between the injury and death and TBSA.

TBSA %	0–48 h, N	3–6 days, N	1–2 weeks, N	> 2 weeks, N
< 59	–	–	–	2
60–89	1	1	–	–
> 90	2	2	1	–

h – hours, N – number of patients, TBSA – total body surface area

tality data also serve as an opportunity to raise awareness and improve precautionary programs and strategies.

Disclosure

The authors have no conflicts of interest to disclose. The authors declare that this study has received no financial support. All procedures performed in this study involving human participants were in accordance with ethical standards of the institutional and/or national research committee and with the Helsinki decla-

ration and its later amendments or comparable ethical standards.

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Júlia Bartková, MD, MBA
 Department of Burns and Plastic
 Surgery
 University Hospital Brno
 Jihlavská 20
 625 00 Brno
 Czech Republic
 e-mail: jul.bartkova@gmail.com

Roman Bánsky (ed.): Clefts

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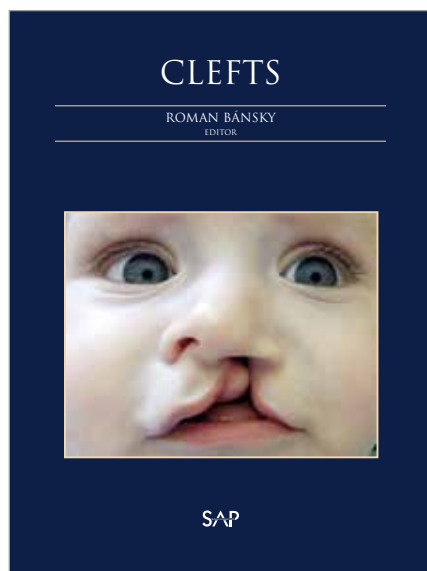


Fig. 1. Cover of the book by Roman Bánsky: *Clefts*.

Dear Editor,

It is with great pleasure that I would like to introduce the second extended edition of the book *Clefts*. The book was excellently characterized by Prof. Jean

Guy Eugène Raymond Delaire, MD, DDS (20. 6. 1923 – 29. 11. 2022), one of the greatest innovators in the field of cleft lip and palate treatment, whose disciple I consider myself to be. Prof. Delaire wrote over 300 scientific articles and published around eight textbooks. He also served as President and Chairman of many organizations and departments. He was Honorary Fellow of British Association of Oral and Maxillofacial Surgeons and Canadian Society of Oral and Maxillofacial Surgeons. Unfortunately, Prof. Delaire left us in November 2022, at the age of 99.

Let me quote his Introduction to *Clefts*: “It was with great pleasure that I read the book *Clefts* by Roman Bánsky, editor. Indeed, I found there, perfectly explained and illustrated, all the essential anatomical and physiological data on which the surgeon must base himself to operate on his young patients and obtain the best immediate and long-term post-operative results. During ini-

tial closure operations, most contemporary paediatric surgeons still use plastic surgery techniques that certainly give satisfactory immediate post-operative results. These, unfortunately, deteriorate with age, following the persistence of dysfunctions (ventilation, chewing, swallowing). Heavy orthognathic surgical techniques (maxillary osteotomies, bone grafts) may thus be necessary at the end of growth. Early physiological surgery, well described in this book, avoids these catastrophic changes and often requires only a few discreet corrections at the end of adolescence.

This is to say the interest of its distribution and of this new edition.”

Roman Bánsky, MD, PhD
 Institute of Paediatric Aesthetic Surgery
 Poliklinika Karlova Ves
 Líščie údolie 57
 842 31 Bratislava 4
 Slovakia
 e-mail: romanplast@hotmail.com