Introduction

Burns are the second leading cause of death in children. This study investigates the distribution and pattern of childhood burn injuries in a private setup. The study was conducted in Rawalpindi, Pakistan from January 2006 to December 2008. Only paediatric patients ≤ 12 years of age were included in the study. All paediatric burn patients (in- as well as out-patients) were included. A total of 44 patients were included (male-to-female ratio, 1.3 to 1) with 2.3% patients aged 1-3 years, 13.6% aged 4-6, 38.6% aged 7-9, and 45.5% aged 10-12. The mean age was 9.16 yr in males and 8.37 yr in females. Scald burns were the commonest kind of burn (43.2%), followed by flame burns (18.2%). In 6.8% of the patients, the burns were superficial, in 20.5% they were deep, and in 72.7% they were mixed. The majority of the patients had involvement of the hand with or without the forearm (47.7%). The mean hospital stay was 17.5 days. There was one mortality during the study period.

Patients and methods

This epidemiological study was conducted in a private setup (Aesthetic Plastic Surgery) in Rawalpindi, Pakistan, from January 2006 to December 2008. Only paediatric patients ≤ 12 years of age were included in the study. All the paediatric burn patients (in-patients as well as out-patients) were included. Information regarding age, sex, aetiology, areas and total body surface area (TBSA) involved, depth (superficial or deep), and duration of hospital stay were recorded. Wound swab cultures were performed on admission.

In all the patients, the standard protocols of Airway, Breathing, Circulation were observed. Broad-spectrum intravenous antibiotics were started. All the burn wounds were thoroughly washed with normal saline under sedation/general anaesthesia, and occlusive dressing was applied using 2% silver sulphadiazine. The dressings were changed regularly once daily. The deep burns and any slough were removed surgically. The superficial burns were left for secondary healing whereas deeper burns were skingrafted.

Results

Age and sex

A total of 44 patients (25 males, 19 females) were included in the study (male-to-female ratio: 1.3 to 1; 2.3% of the patients were aged 1-3 yr, 13.6% were aged 4-6 yr, 38.6% 7-9 yr, and 45.5% 10-12 yr). The mean age was 9.16 yr in males (range, 5-12 yr) and 8.37 yr in females (range 3-12 yr).

Type of burn

Scalds (43.2%) were the commonest cause of burns, followed by flash burns (18.2%). Among the scalds, hot oil was predominant (Table I).

Severity of burns (extent and depth)

The majority of patients (72.2%) had superficial to deep second-degree burns; 20.5% of the patients had deep third-degree burns and 6.8% had superficial burns. (In many
The micro-organisms cultivated in the wound-swab cultures included *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Klebsiella* species, *E. coli*, *Streptococcus pyogenes*, and methicillin-resistant *Staphylococcus aureus* (MRSA) (Fig. 2).

**Areas involved**
The majority of the patients had involvement of the hand with or without the forearm (47.7%), followed by involvement of the foot and abdomen (Table II).

**Location of accident**
The highest proportion of burns (45%) occurred in domestic settings, including the living-room, kitchen, lawn, bathroom, etc. (Fig. 1).

**Hospitalization**
The mean hospital stay was 16.9 days (range, 8-27 days).

**Mortality**
There was one mortality during the study.

**Discussion**
Burns in childhood are frequent in everyday life and are among the severest of all pathologies in children. They are responsible for significant morbidity and mortality in developing countries. The generally poor functional and aesthetic outcomes after treatment make the prevention of paediatric burns critically important. Reports from other countries indicate that children under the age of 6 years are at the highest risk.12-14

The present study demonstrated that children in the pre-school and school-going age groups were more frequently involved (80.8%) than toddlers, a finding that is at variance with Subrahmanyam’s report.15 This may be due to the fact that at pre-school and school-going age, children try to mimic actions of their parents and elders, making themselves more vulnerable to burn injuries. Parental negligence and a low level of awareness also play a role in childhood burns. In the present study the majority of the burns occurred in a domestic setting, as reported by others.16-18 The reasons postulated are:

• Children often play in the house and are frequently in and out of the kitchen,
• Parents can be negligent in the care of their children because of their large number in one family,
• Matches and lighters are frequently used for lighting ovens, candles, heaters, and gas lamps and are not placed out of reach of children.
• Children try to mimic the actions of adults.

**Table I - Causes of burns**

<table>
<thead>
<tr>
<th>Cause</th>
<th>Patients (44)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scald (hot oil)</td>
<td>10</td>
<td>22.7</td>
</tr>
<tr>
<td>Scald (hot water)</td>
<td>9</td>
<td>20.5</td>
</tr>
<tr>
<td>Flash (matches/candle)</td>
<td>8</td>
<td>18.2</td>
</tr>
<tr>
<td>Electricity</td>
<td>7</td>
<td>15.9</td>
</tr>
<tr>
<td>Flame burn</td>
<td>5</td>
<td>11.4</td>
</tr>
<tr>
<td>Chemicals</td>
<td>1</td>
<td>2.3</td>
</tr>
<tr>
<td>Not known/Others/Doubtful</td>
<td>4</td>
<td>9.1</td>
</tr>
</tbody>
</table>

**Table II - Body areas involved**

<table>
<thead>
<tr>
<th>Body area</th>
<th>Patients (total, 44)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand</td>
<td>10</td>
</tr>
<tr>
<td>Hand + forearm</td>
<td>11</td>
</tr>
<tr>
<td>Foot</td>
<td>7</td>
</tr>
<tr>
<td>Chest</td>
<td>6</td>
</tr>
<tr>
<td>Abdomen</td>
<td>7</td>
</tr>
<tr>
<td>Face</td>
<td>4</td>
</tr>
<tr>
<td>Back</td>
<td>2</td>
</tr>
<tr>
<td>Perineum + buttocks</td>
<td>5</td>
</tr>
<tr>
<td>Leg + thigh</td>
<td>7</td>
</tr>
</tbody>
</table>

**Micro-organisms**

Places it was difficult to assess the exact depth of certain burns, which were therefore placed in the mixed pattern category.) The average TBSA involved was 12.9% (range, 5-22%).

**Hospitalization**
The mean hospital stay was 16.9 days (range, 8-27 days).
Les brûlures sont la deuxième cause principale de la mort en âge pédiatrique. L’Auteur de cette étude s’est proposé de considérer la distribution et les modalités des brûlures traitées dans un service privé à Rawalpindi (Pakistan) pendant la période janvier 2006/décembre 2008. Seulement les patients d’âge pédiatrique jusqu’à 12 ans ont été admis à l’étude. Tous les patients pédiatriques, en régime soit hospitalier qu’externe, ont été inclus, c’est-à-dire 44 patients (rapport mâles/femelles, 1,3:1), dont 2,3% étaient âgés d’un an à 3 ans, 13,6% de 4 à 6 ans, 38,6% de 7 à 9 ans et 45,5% de 10 à 12 ans. L’âge moyen des garçons était 9,16 ns et des jeunes filles 8,37 ans. La cause la plus commune des brûlures était l’ébouillantement (43,2%), suivi par les flammes (18,2%). Chez 6,8% des patients les brûlures étaient superficielles, chez 20,5% elles étaient profondes et dans 72,7% elles étaient de type mixte. Dans la plupart des cas la main était intéressée, avec ou sans l’avant-bras (47,7%). La durée moyenne de l’hospitalisation était de 17,5 jours. Une seule mortalité s’est vérifiée pendant l’étude.

RÉSUMÉ. Les brûlures sont la deuxième cause principale de la mort en âge pédiatrique. L’Auteur de cette étude s’est proposé de considérer la distribution et les modalités des brûlures traitées dans un service privé à Rawalpindi (Pakistan) pendant la période janvier 2006/décembre 2008. Seulement les patients d’âge pédiatrique jusqu’à 12 ans ont été admis à l’étude. Tous les patients pédiatriques, en régime soit hospitalier qu’externe, ont été inclus, c’est-à-dire 44 patients (rapport mâles/femelles, 1,3:1), dont 2,3% étaient âgés d’un an à 3 ans, 13,6% de 4 à 6 ans, 38,6% de 7 à 9 ans et 45,5% de 10 à 12 ans. L’âge moyen des garçons était 9,16 ns et des jeunes filles 8,37 ans. La cause la plus commune des brûlures était l’ébouillantement (43,2%), suivi par les flammes (18,2%). Chez 6,8% des patients les brûlures étaient superficielles, chez 20,5% elles étaient profondes et dans 72,7% elles étaient de type mixte. Dans la plupart des cas la main était intéressée, avec ou sans l’avant-bras (47,7%). La durée moyenne de l’hospitalisation était de 17,5 jours. Une seule mortalité s’est vérifiée pendant l’étude.

BIBLIOGRAPHIE


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