Epidemiology of Burns at SMS Hospital Jaipur: Over a Period of 3 Years

Abhishek Sharma, Samarth Gupta, Sunil Srivastava

Abstract: Introduction: A Burn is defined as an insult to body’s tissues resulting from heat, chemical, electricity, sunlight or radiation. Scald burns occurring due to hot liquids, steam and gases form the most common mode of burns. Besides saving lives, the ultimate goal in burn management is early and complete healing of wounds leading to good cosmetic and functional results. Material and Methods: This is a retrospective study done at Dept Of Burns & Plastic Surgery SMS Medical College and Hospital, Jaipur, Rajasthan over a period of three years (Jan 2017- Dec 2019). A total of 5241 (Five thousand two hundred forty one) burn patients were admitted to the department which included all forms of burn injury. Result: Out of 5241 burn patients, 1220 patients suffered by Electrical burns (23.27%), 3200 suffered by flame burns (61.06%) and 412 suffered by scald burns (7.86%) and remaining 9 patients were suffered by chemical burns. 4113 patients were of the age group 11-40 years (78.5%). Of 5241, 3304 were males (63.04%), 1937 were females (36.96%) of all burn admissions. Conclusion: Our study concludes that the most common mode of burn injury is flame and electrical burn. With this study we want to send the message to public that prevention is better than cure in burn injuries.

Keywords: Epidemiology of burns, flame burn, electrical burn

1. Introduction

A burn injury is defined as insult to body’s tissues from heat, electricity, chemicals, sunlight or radiation. The most common of them is scald burns occurring due to hot liquids, steam and gases. Burn can be classified in to four types as follows, First degree burn - involve only the epidermis, Second degree burn - involve the epidermis and upper part of dermis, third degree burn - involve the epidermis, entire dermis and may or may not involve subcutaneous tissue, Fourth degree burn - involve the deeper structure like bones, muscle and tendons. Burns can cause pain, swelling, blistering, redness, charring, scaring and in extensive cases shock and even death. Infection can occur as a result of damage to protective barrier of skin. Treatment mainly depends on the three main factors namely cause of burn, its extent (i.e. percentage of burns) and its depth. Patients with extensive deep burns frequently die and those with lesser injuries, physical recovery is gradual and painful with development of burn sequelae. Our aim in burn patients management is proper healing of the wound at earliest, so that patient achieves good cosmetic and functional result and resume his/her duties.

Social characteristics

The age of the burn patients ranged from 0 (Zero) to greater than 60 years. Most of the patients (78.5%) were between 11 and 40 years of age. Males predominated, with an incidence of 63.04% (3304), compared to female incidence of 36.96% (1937) cases of total 5241. The reason for this might be due to the larger male population in our study and greater exposure to professional hazards. (Figs. 2, 3), (Table: 1).

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Total Patients</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10 yrs</td>
<td>520</td>
<td>212</td>
<td>308</td>
</tr>
<tr>
<td>10-40 yrs</td>
<td>4114</td>
<td>2756</td>
<td>1358</td>
</tr>
<tr>
<td>41-60 yrs</td>
<td>357</td>
<td>240</td>
<td>117</td>
</tr>
<tr>
<td>&gt;60 yrs</td>
<td>250</td>
<td>96</td>
<td>154</td>
</tr>
</tbody>
</table>

Aetiology of the burns

History elicited from the patients revealed that the majority of flame and scald injuries occurred at home and electric burns occurred at workplace. In more than three fourth (3837 of 5241) of the cases, domestic cooking, stove, choolah etc were responsible for the flame and scald burns. Flame was the commonest of burn injuries (3200 of 5241) which comes out to be 61.06%. In scalds the commonest causative agent was boiling water, followed by cooking oil and milk.

Figure 1: Hot Water burn in a 3 year child

Male to Female Percentages in burn incidences

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In the present study, a significant association was found between age and the burn injury agent. Most scald burns occurred in the age group less than 10 years and were due to boiling water. The incidence of electric burn was around 23% which were mainly caused by ignorance, non-compliance with rules and regulations, and the lack of safe work practices.

Prevention programs and measures play a major role in significant reduction of rates of serious burns. A variety of preventive measures which can be undertaken include limiting water temperature, smoke alarms, sprinklers, improved construction of building and fire resistant clothings. Scald burns can be prevented by using thermometer to measure both water temperature and splash guards on stoves. Firework injuries can be prevented by strict adherence to government rules regarding its manufacture and sale.

3. Conclusion

Burns in most of the cases can be prevented. Public awareness is the mainstay method to achieve this. This can be done by proper advertisement and involvement of electronic and print media to make people aware of it. The government should take decisions regarding educating public and to provide medications at subsidized rates for the patients so that they can be treated without cost factor coming in between. The plan of free drug and food supply for the patients has been implemented in our state and patients are extremely benefited. Hence every state govt should try to educate people to prevent themselves from this unfortunate injury and adequate treatment should be available in such cases.

References

[5] Epidemiological Survey of Burn Victims Treated as Emergency Cases in our Hospital in the Last Five Years O. Castana, G. Anagiotos, [...], and D. Alexakis

