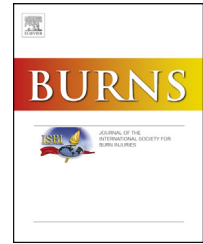


Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.elsevier.com/locate/burns

Burns at KCMC: Epidemiology, presentation, management and treatment outcome



Y. Ringo^{a,*}, K. Chilonga^b

^a Kilimanjaro Christian Medical University College, P.O. BOX 2240, Moshi, Tanzania

^b Department of General Surgery, Kilimanjaro Christian Medical Centre, P.O. BOX 3010, Moshi, Tanzania

ARTICLE INFO

Article history:

Accepted 23 October 2013

Keywords:

Epidemiology

Presentation

Management

Outcome

Burn

Kilimanjaro Christian Medical Centre

ABSTRACT

Background: About 90% of the global burden of burns occurs in the low and middle income countries. In Africa it is estimated that between 17,000 and 30,000 children under five die each year due to burns. In Tanzania there are no specialized burn centers. Burn patients are often managed in the general surgical wards in most hospitals. Kilimanjaro Christian Medical Centre is one of the four tertiary referral hospitals in Tanzania.

Rationale: This study aimed to review the epidemiology presentation management and outcome of burn patients in this challenging environment.

Patients and methods: A cross-sectional prospective study involving 41 patients was undertaken from October 2011 to April 2012.

Results: 65.9% were males. The largest age group was below 5 years (36.6%). 19.5% were epileptic. More than half of the burns were due to open flame. 80.5% had second degree burns. 56.1% had a BSA of 15% or less and 56.1% had an APACHE score of 10 or less. It was found that 73.2% of burns occurred at home. The commonest prehospital first aid applied was honey. Only 41.5% arrived in hospital within the first 24 h after burn. Among the 14.6% who had skin grafting, none had early excision of burn wound. 53.7% developed wound sepsis while 24.4% developed contractures. The mortality rate was 26.8%.

Conclusion: Children under five are the worst affected by burns. Most patients had second degree burn wounds. Inappropriate management of the burn wound started just after injury and continued even in hospital. Mortality and complication rates are high.

© 2013 Elsevier Ltd and ISBI. All rights reserved.

1. Background

Burns are responsible for over 300,000 deaths globally. About 90% of the global burden of burns occurs in the low and middle income countries [1]. More than half of these occur in south East Asia [2]. In Africa it is estimated that between 17,000 and 30,000 children less than 5 years die each year due to burns [24]. Majority of those affected are children under 5 years. Many studies have found males to be more affected than females [3]. The most common causes of burns are scalds and dry flame.

Burns due to electrical and chemical injuries are uncommon [3]. Majority of burns occur accidentally, however intentional burns due to assault or self immolation have been reported. Although most burns are non-intentional several risk factors have been identified. These include extremes of age, low socioeconomic status, epilepsy and level of literacy [3–5].

In Tanzania there are no specialized burn centers. Burn patients are often managed in the general surgical wards in most hospitals. They are frequently under the care of assistant medical officers and clinical officers in these hospitals. Kilimanjaro Christian Medical Centre is one of the four tertiary

* Corresponding author. Tel.: +255 756680746.

E-mail address: yonaringo@yahoo.com (Y. Ringo).

0305-4179/\$36.00 © 2013 Elsevier Ltd and ISBI. All rights reserved.

<http://dx.doi.org/10.1016/j.burns.2013.10.019>

referral hospitals in Tanzania. It caters as a referral center for the northern Tanzanian zone which has a population of about 10 million people. It also faces the challenge of lacking a specialized burn unit. Burn patients are admitted to the surgical wards or surgical ICU depending on severity and managed by the nurses, interns and residents under specialist supervision in these wards.

2. Rationale

Burn patients admitted to Kilimanjaro Christian Medical Centre often stay for prolonged durations and their wounds often get complicated. This is further compounded by limited hospital resources. The result of this is a heavy strain on the patient economically and socially. No published study has been done to look at the characteristics of burn patients and the appropriateness of methods used to treat them at here. This study aimed to review the epidemiology presentation management and outcome of burn patients in this challenging environment. It is hoped that information gained from this will enable improvement of local burn protocols and establish a foundation for later interventional studies.

3. Patients and methods

Majority of burn patients reach Kilimanjaro Christian Medical Centre as referrals from regional or district hospital as a result of severity of complication of the burn wound. The regional/district hospitals may receive them as fresh cases or referrals from primary health care facilities.

A cross-sectional prospective study involving 41 patients was undertaken from October 2011 to April 2012. All patients who were admitted to the general surgical wards and ICUs were purposively selected. The inclusion criteria were all patients who consented. No significant bias was expected. Additionally the same data sheet was used to collect information from all sources. Ethical approval was obtained from the Kilimanjaro Christian college Research Ethics review Committee and the hospital management.

Data was taken on the demographics as well as the main source of fuel and light. Presentation was assessed by looking at the depth, body surface area involved and anatomical location of burn. Management was determined by recording the first aid applied, duration before arrival to Kilimanjaro Christian Medical Centre, adequacy of fluid administration, use of topical antiseptics and duration prior to skin grafting. Outcome variables were length of hospital stay, wound sepsis, contracture and death. Wound sepsis was defined as presence of foul smell or purulent discharge. Epilepsy was defined as history of recurrent unprovoked seizures or documented diagnosis by a physician.

3.1. Procedures

BSA was estimated using Lund and Browder chart for children below 10 years and Wallace rule of nine for those above. Fluid adequacy was assessed by looking at the input based on the parkland formula and urine output greater than 0.3 ml/kg/h. A

modified APACHE III score was used to assess severity as well. This modified APACHE III (Acute Physiology and Chronic Health Evaluation) score excluded the blood gas analysis component as this was not readily available in our setup.

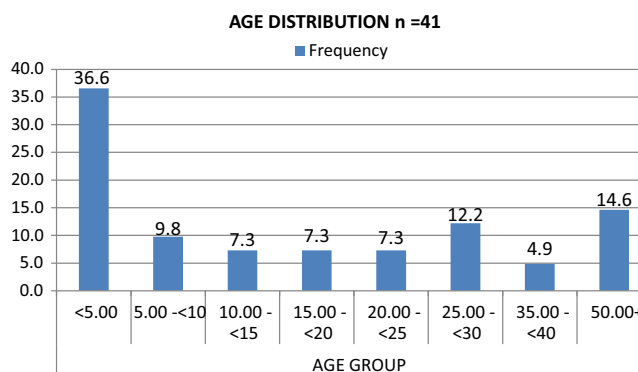
3.2. Data analysis

Data were analyzed using SPSS version 14.

4. Results

The study included a total of 41 patients. All patients met the inclusion criteria. Majority (65.9%) in this study were males. On looking at the age distribution, 36.6% of burn patients were under 5 years. 17.1% were between 5 and 15 years, then 19.5% were between 20 and 30 years and 14.6% were 50 years and above.

HISTOGRAM: AGE GROUPS



Majority (68.3%) had primary education; while 19.5% had no formal education. 73.2% of the study population depended on firewood as the main source of fuel. The main source of light was electricity for 63.4% of respondents followed by traditional kerosene lamp (24.4%). Only 2.4% depended on solar power. Majority (92.6%) used traditional kerosene lamp or lantern for an emergency source of light. Only 4.9% used battery/charging lamps (Table 1).

4.1. The cause of burns

Majority of the burns (63.4%) were caused by open flame burns. This was followed by scalds. These two in combination were the causal agents of for the vast majority (95.1%) of injuries. 19.5% of the study population had epilepsy. Majority of the burns occurred at home (73.2%) (Table 2).

4.2. The severity and part of body burnt

The vast majority of patients (80.5%) had second degree burns. This was followed by third degree burns (17.1%). A greater part (56.1%) had burns which involved 15% or less of the BSA. A large proportion (56.1%) of the patients had an APACHE score of 10 or less. 68.3% had burns involving the upper limb. This was followed by trunk (58.5%) and lower limb (58.5%). The head/face (14.6%) was the least involved location (Table 3).

Download English Version:

<https://daneshyari.com/en/article/3104598>

Download Persian Version:

<https://daneshyari.com/article/3104598>

[Daneshyari.com](https://daneshyari.com)