BURNS IN THE MALAYSIAN POPULATION: TWO YEARS OF BURNS ADMISSIONS FOR BURNS AT THE GENERAL HOSPITAL, KUALA LUMPUR.

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SUMMARY

One hundred and seventy five patients treated for burns during 1983 and 1984 were reviewed. The majority of these patients were below eight years of age. These injuries were mainly sustained at home (83.4%) and were usually caused by hot liquids (41.7%). The infection rate was 57.1% and many developed septicaemia (21.7%). Mortality in patients sustaining burns involving greater than 30% of the body surface area was high at 52%.

INTRODUCTION

No accurate figures exist for the incidence of burns in the Malaysian population. However, using estimates in developed countries, about one per cent of the population would be burned or scalded each year and this would mean approximately 150,000 individuals in Malaysia. Of these, about 25% or 37,500 patients would probably need hospitalization. Data available in Malaysia is scanty since burns are usually treated by general surgeons in the various hospitals. At the General Hospital, Kuala Lumpur, burns are managed by Orthopaedic surgeons. There is at present no specialised Burns unit in this country.

This study was undertaken to determine the pattern of burns injuries at the General Hospital, Kuala Lumpur, the largest hospital in the country. This will help in the planning of better care of patients with burns.

MATERIALS AND METHODS:

A retrospective analysis of 227 patients admitted with burns from January, 1983 to December, 1984, to the University Kebangsaan Unit at the General Hospital, Kuala Lumpur was carried out. Case records of 175 patients were obtained for this period. Another 52 case records were unavailable.

The epidemiology of burns was looked at. Since the University Unit alternates equally with the Service Unit of the General Hospital in admitting burns cases, the patients assessed in this study would statistically represent half of the cases presenting at the General Hospital for the period stated above.

Burns is managed at the Unit with a standard regime. This includes 48 hours of fluid replacement where indicated and thrice daily applications of silver suphadiazine which are covered with dressings.

RESULTS

1. Age and Sex

Of the 175 patients treated for burns, 105 were males and 70 females. The youngest patient was five months old and the oldest 75 years. The age distribution is shown in figure 1. The largest number of admissions were children, especially those below five years of age. Children below eight years accounted for 50% of the admissions. Only 37.7% of burns were seen in adults.

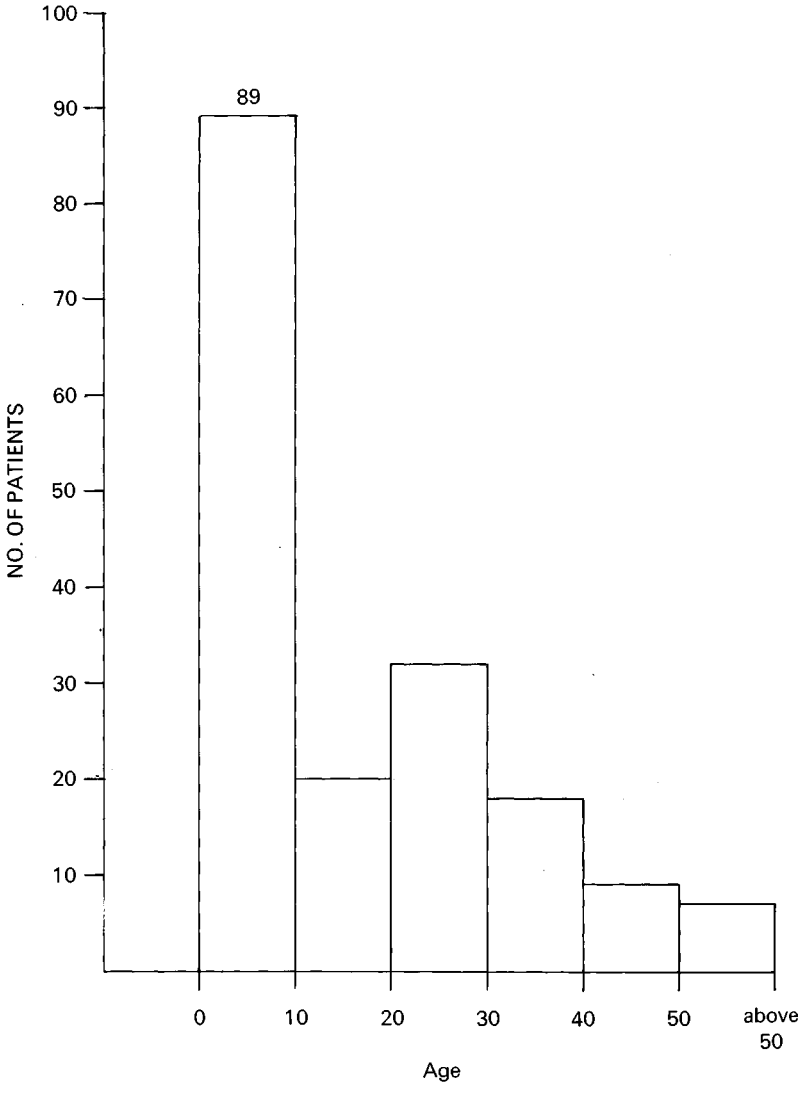

FIG. 1: AGE INCIDENCE OF BURNS.

2. Causes of Burns

The causes of burns were classified into five categories. Hot liquids, including water, tea, coffee and cooking oil were the commonest cause (52%). Direct flames were implicated in 33%. Hot solids, where metals or other solids come into contact with the patient, caused burns in 8.5%. The remaining 6.5% of the patients were caused by chemical substances and various other agents.

3. Places where burns occur

As with most common accidents, the majority (83.4%) of these burns occur at home. The next most frequent place (10.3%) was at work. Only 6.3% of burns occured elsewhere. Hot liquids accounted for 61.0% of burns in the home. Scalding was implicated in 76 patients and cooking oil in 13 patients. The next most common cause were explosion of kerosene lamps and stoves.

4. Severity of Burns

About 49.7% of the patients had burns of 10% of the body surface area (B.S.A.) or less. Only 4.6% had burns involving greater than half of the body surface area. Of the remainder, 26.9% had 11 – 20% B.S.A. involved, 9.1% had 21 – 30% B.S.A. involved, 6.9% had 31 – 40% B.S.A. involved and 2.9% had 41 – 50% B.S.A. involved.

Burns most often involved the limbs. The upper limbs (56.6%) and the lower limbs (59.4%) were involved in roughly equal numbers. The trunk (52.6%) was the next most frequent site.Surprisingly, the face (29.1%) was more frequently involved than the hands (22.9%)

5. Infection

The incidence of infection in these patients was fairly high and bacteriologically proven in 57.1%. The common organisms isolated were Staphylococus (36.6%) and Pseudomonas (29.1%). Streptococci were the next most common, 11.4%. Infection by multiple organisms was seen frequently. Septicaemia was noted in 38 patients (21.7%) and 13 of them succumbed to the infection.

6. Morbidity

Whilst being treated in the hospital, the commonest acute problem which arose was septicaemia, about a third of these patients succumbed. Renal failure was seen in six patients (3.4%) and Curling's ulcer in another six patients. Other complications were infrequent. No complications were seen in 118 patiens (67.4%).

7. Mortality

The overall mortality in this series was 9.1%. Though multiple causative factors are usual, the causes of death were septicaemia in thirteen patients, renal failure in two patients and in one patient the cause was not recorded. Table 1 shows that mortality was 75% in patients with burns involving greater than 50% of

TABLE 1: Incidence of Mortality with Increasing Severity of Burns

Body Surface Area Involved		Frequency of Deaths	
B.S.A.	No. of Patients	No. of Patients	Per cent. (%)
0 – 15	114	0	0
16 – 30	36	3	8.3
31 – 50	17	7	41.2
51 – 100	8	6	75.0
TOTAL	175	16	9.1

the body surface area. Whilst this is not surprising, a mortality of 8.3% in patients with 16 – 30% burns and mortality of 41.2% in patients with 31 – 50% burns is unacceptably high.

DISCUSSION

Burns usually involve young children. This series shows that children below 10 years of age are at greatest risk. This is generally the trend worldwide. In Japan[1], children below 10 years are involved in greater than 50% of the cases. In England[2], the highest incidence is usually between the ages of one and three years, with patients of three years of age being at greatest risk. Scalds are the commonest cause of burns injuries. Hot tea and other hot liquids, and having bowls or buckets of hot water lying around, places young children at great risk[3].

As can be expected, the majority of the accidents occur at home. In this study, 83.4% of burns occurred at home and 61% of the burns at home were scalds. Though scalds are often the cause of burns, other studies show a lower incidence. In New York for instance[4], scalds accounted for only 39% of the burns. Carelessness of adults results in large numbers of Malaysian children getting scalded at home. Fortunately the burns sustained were not too severe. About 50% of our patients had less than 10% of their body surface area burnt. Usually the limbs were involved.

Many of the patients is this study developed bacteriologically proven infection (57.1%). This is not unexpected as the patients are often treated in the open wards besides patients with Antibiotic resistant organisms in compound fractures. Septicaemia was hence a big problem, being seen in 21.7% of patients and the cause of death in 7.4% of the patients. Other complications were fortunately rarely seen.

Mortality in this series is fairly high at 9.1%. Though many specialised burns centres would have a similar mortality rate, their patients would be selected and only severe burns would be accepted in these specialised units. In comparison, in a series of 749 patients in New York[4], the mortality was only 0.04%. Thus a mortality of 52% in patients with burns involving greater than 30% of the body surface area is most worrying.

The major problems with burns management at the Hospital are:

a) the lack of special areas for burns management eg. Burns wards,
b) availability of trained staff exclusively to treat burns patients,
c) control of infections, since they are generally treated in common surgical or orthopaedic wards, and
d) inadequate collaboration of different specialities in the treatment.

The management of burns definitely has to be improved, particularly in patients with burns involving greater than 30% of the body surface area. A reappraisal of the facilities and the skilled care available for the treatment of burns is imperative. The present arrangements at the General Hospital, Kuala Luumpur need to be reorganised to allow optimal care of these patients. A specialised Burns Unit staffed by trained personnel with a special interest in the management of burns is overdue.

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