

PROFILE OF BURN TRAUMA IN ROHILKHAND REGION OF UTTAR PRADESH

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ABSTRACT

Background: Burn trauma is the common problems seen in emergency in tertiary care centre of Rohilkhand region. So, far there is no published study regarding the magnitude of burn trauma in this area.

Aims & Objective: To study the etiology of major burn trauma in Rohilkhand region of Uttar Pradesh.

Material and Methods: This retrospective study was carried out on 96 patients admitted in the Department of Surgery, Rohilkhand Medical College & Hospital, Bareilly during the period of 1st January 2010 to 31st December 2012.

Results: Among the total of 36 patients (37.5%) from urban area, 16 (16.6%) were males and 20 (20.8%) were females and from rural area 46 (47.9%) were male and 14 (14.6) were female. The most frequent etiological agent was hot liquid (45.8%) followed by flame burns (33.3%), chemical (13.5%) and electrical (7.2%). Out of the total patients, 47 (48.9%) had 1 and 2 degree burn, 32 (33.3%) had 3 degree burn and 17 (17.7%) had mixed burn. Out of the total of 20 patients, who had died 6 were males and 14 were females.

Conclusion: The most frequent cause of burn in Rohilkhand region was hot liquid. The mortality rate was higher for females than males.

KEY-WORDS: Burn Trauma; Electrical Burn; Flame Burn

Introduction

Burn trauma is quite frequent in India with 0.7 to 0.8 million hospital admission every year. Incidences vary from region to region & among different socio-economic groups. They also show seasonal variation. In India there are very few hospitals with separate burn units, hence most of the burn patients are being managed by staff without any proper training in burn care.^[1]

Rohilkhand region is thickly populated area of the state of U.P. in India, with large rural as well as urban population. Burn trauma is the common problems seen in emergency in tertiary care centre of Rohilkhand region. So, far there is no published study regarding the magnitude of burn trauma in this area. The study was done with aims and objective of studying the etiology of major burn trauma in Rohilkhand region of Uttar Pradesh.

Materials and Methods

This retrospective study was carried out on 96 patients admitted in the Department of Surgery in

a tertiary care centre of Bareilly during the period from 1st January 2010 to 31st December 2012.

The data was collected on the basis of age, gender, percentage of burn, etc. Date collected was entered into a standard proforma prepared for this study and analyzed. On the basis of analysis (observation), results were drawn and discussed and compared with other relevant literature.

Results

There were total of 96 patients of major burn trauma during the period of study 16(16.67%) patients were admitted in Jan to march months, 28 (29.16%) patients were admitted in April to June, 32 (33.33%) patients were admitted in July to September months, 20(20.84%) patients were admitted in October to December months (Table 1). The places of residence of 96 victims were included in the study. Most of the victims 60 (62.5%) came from rural area rest 36(37.5%) were from urban area (Table 2). Among the total of 36 patients (37.5%) from urban area, 16 (16.6%) were males and 20 (20.8%) were females and from rural area 46 (47.9%) were male and

14(14.6) were female (Table 3). Maximum number of patients i.e. 44 (45.8%) were in the age group of 11 – 25 years, both among males (24) and female (20) (Table 4). 60 patients (62.5%) were married, among them 38 (39.6%) were male and 22 (22.9%) were female. 36 patients (37.5%) were unmarried, among them 24 (25.0%) male and 12 (12.5%) were female (Table 5). 26 patients came to the hospital between 5 – 12 hours post burn, 8 patients came to the hospital between 0 – 4 hours post burn, 16 patients came to the hospital between 13 – 24 hours post burn, 22 patients came to the hospital between 25 – 48 and 24 patients came to the hospital after 48 hrs (Table 6). All the patients in the study had sustained accidental burn (Table 7). The most frequent etiological agent was hot liquid (45.8%) followed by flame burns (33.3%), chemical (13.5%) and electrical (7.2%) (Table 8). Majority of the patients' i.e. 32 males and 12 females had less than 25% burnt. 22 patients had 26-30%, 15 patients had 51-75% and 15 patients had over 76% burnt (Table 9). Out of the total patients, 47 (48.9%) had 1 and 2 degree burn, 32(33.3%) had 3 degree burn and 17 (17.7%) had mixed burn (Table 10). Out of the total of 20 patients, who had died 6 were males and 14 were females (Table 11). Among the dead, 5 patients had 51 – 75% burns and 15 patients had over 75 % burns (Table 12).

Table-1: Annual Distribution of Patients

Months	Total	%
Jan to March	16	16.67
April to June	28	29.16
July to September	32	33.33
October to December	20	20.84

Table-2: Place of Residence

Urban (%)	Rural (%)	Total (%)
36 (37.5%)	60 (62.5%)	96(100%)

Table-3: Gender Profile of Urban and Rural Patients

Gender	Urban (%)	Rural (%)
Male	16 (16.6)	46 (47.9)
Female	20 (20.9)	14 (14.6)
Total	36 (37.5)	60(62.5)

Table-4: Distribution of Age and Sex

Age	Male	Female	Total	%
4 – 17 yrs	12	4	16	16.6%
18 - 31 yrs	24	20	44	45.8%
32 – 45 yrs	22	6	28	29%
> 45 yrs	4	4	8	8.3%
Total	62	34	96	100%

Table-5: Distribution in Relation to Marital Status

Sex	Married (%)	Unmarried (%)
Male	38 (39.6%)	24 (25%)
Female	22 (22.9%)	12 (12.5%)
Total	60 (62.5%)	36 (37.5%)

Table-6: Time of Admission after Sustaining Burn

Post Burn Hours on Admission	No. of Patients
0 – 4	8
5 – 12	26
13 – 24	16
25 – 48	22
>48	24

Table-7: Circumstance of Sustaining Burn

	Male	Female	Total
Accidental	56	40	96
Suicidal	Nil	Nil	Nil
Homicidal	Nil	Nil	Nil

Table-8: Cause of Burn

Cause	Male	Female	Total	%
Hot liquid	26	18	44	45.8
Flame	18	14	32	33.3
Chemical	12	01	13	13.5
Electrical	06	01	07	7.2

Table-9: Extent of Burn in Relation to Sex

%	Male %	Female %	Total %
< 25	32 (33.3%)	12 (12.5%)	44 (45.8%)
26-30	14 (14.5%)	8 (8.3%)	22 (22.9%)
51-75	10 (10.4%)	5 (5.2%)	15 (15.6%)
> 76	6 (6.2%)	9 (9.3%)	15 (15.6%)

Table-10: Depth of Burn

Depth	Male %	Female %	Total %
1 & 2	33 (34%)	14 (14.5%)	47 (48.9%)
3	17 (17.7%)	15 (15.3%)	32 (33.3%)
Mixed	12 (12.5%)	5 (5.2%)	17 (17.7%)

Table-11: Mortality

Male (%)	Female (%)	Total (%)
6 (6.25%)	14 (14.58%)	20 (20.8%)

Table-12: Distribution of Mortality according to % of Burn

% of Burns	No. %
< 25%	NIL
26 – 50%	NIL
51 – 75%	5 (5.2%)
>75%	15 (15.6%)

Treatment Protocol: (1) Fluid used for resuscitation – Ringer lactate; (2) Topical agent used for dressing – silver sulphadigine; (3) Method of dressing – closed and exposure for facial burns; (4) Average number of days after which patients was posted for SSG – 4 weeks; (5) Average duration of hospital stay – 15 days to 2 months; (6) Bacteriological profile – (a) Organisms isolated = klebsiella sp, staphylococcus

aureus; (b) Commonest organisms = klebsiella sp;
(3) Profile of antibiotic sensitivity = amikacin,
gentamycin, cefoperazone

Discussion

Burn injuries are the most dangerous injury that occurs over whole world wide. In all societies including developed and developing countries, burns constitute a medical and psychological problem but also have severe economic and social consequences not only to them, but also to their family and society in general.

Analysis to sex record in our study showed that males were 64.5% and females were 35.5%. The overall male predominance in our study confirms with some previous report by Jayaraman^[1] and Ambade^[3,4] and contrast other epidemiological studies which show female predominance. Young adults in 11 to 25 years of age group constituted maximum number of cases 44 (45.8%) and least number of cases 8 (8.3%) were in the age group above 45 years. These results are consistent with the work of other report such as R.B Ahuja et al^[2] and Barradas^[5].

In the present study, most of the patients were married (62.5%), out of which 39.6% were males and 22.9% were females and unmarried were 37.5%. Most of the patients attended the hospital after 5 hrs of injury. All the patients sustained accidental burn. Most common cause of burn was hot liquid burn (45.8%) which is followed up by flame (33.3%), chemical (13.5%), electrical (7.2%). 44 (45.8%) patients had less than 25% burns, 15 (15.6%) had over 76% burns and 37 (38.5%) patients had burns between 30% - 75%. 47 (48.9%) patients had 1st - 2nd degree burns and 32 (33.5%) patients had 3rd degree burns. The overall mortality in this study was 20.8% and was

higher in females (14.58%) than in males (6.25%). Similar mortality rates were reported by Ghulani K. et al.^[6]

Mortality between 51 - 75% burns was 5.2% and over 75% burns mortality was 100%. In females mortality was high because in our society they are not treated equally as males. Also, there are cases of dowry, which are concealed by their in laws/relatives. Maximum number of cases were from rural area. Relatives do not want to spend money on female victims that is why there is high mortality in females.

Conclusion

The most frequent cause of burn in Rohilkhand region was hot liquid. The mortality rate was higher for females than males.

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