

Incidence of burns among autopsies done at Government Medical College, Aurangabad

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Abstract

Background: Burns occur in all circumstances of human life like domestic, non-domestic and industrialization etc. In India burns due to domestic accident are most common and are also causing most extensive and severe injuries to the body. Unnatural death due to burns is very common in region. **Aims and Objectives:** To study the incidence of burns with respect to victims age, sex and Marital status. **Materials and Methods:** This Cross-Sectional Observational study was carried out in The Dept. of Forensic Medicine and Toxicology at Govt. Medical college and Hospital, Aurangabad during the period of Jan-2015 to Dec-2015. Out of 1700 medico-legal autopsies, 200 burn cases formed the material for the present study. **Results:** The incidence of burns was found to be 11.76% (200/1700). The highest number of burns cases i.e.26.5% were seen in the 19-25 yrs age group. Out of 200 cases, 160 were females and 40 were males The male: female ratio was 1: 4. The maximum numbers of cases of burns were amongst married (74%) individuals. **Conclusion:** The present study of incidence of burns among autopsies revealed low incidence of burns and female preponderance, young age and marriage as associated factors.

Key Words: Burns, Autopsy, Incidence, Marital status.

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INTRODUCTION

The Burns represent one of the major health problems in India. Prolonged morbidity and disability due to burns results in economic loss to the individual family, the society and the state.¹ The exact time of discovery of fire is undocumented but it started with Friction, soon after man's advent on earth and treatment must have begun within a few minutes after the experience of burns by the primitive man. Burn is a burning problem perhaps ever since human beings existence particularly from its use of fires. Nowadays, due to increasing Industrialization and urbanization, we are facing this problem in greater Magnitude. Burns constitute a major cause of death and

morbidity in India. Accidental, suicidal and homicidal deaths due to burns are common in India. While fire and conflagration constitute the third leading cause of death in U.S.A (Dark D.F *et al*)² Burns occur in all circumstances of human life like domestic, non-domestic and industrialization etc. In India burns due to domestic accident Are most common and are also causing most extensive and severe injuries to the body. Unnatural death due to burns is very common in region. The Law-enforcing agency must investigate this unnatural cause of death. The Body must be subjected to post-mortem examination and the directives in the Circulars form government of Maharashtra be followed (Home Dept. Circular) Goldman (Goldman A.S)³ described the burns as a silent Epidemic. Beside causing death in some cases it is the cause of lifelong Disability, deformity and disfigurement of the body. Major burn injuries also Causes psychological disturbances and financial loss to the victims and also the Family and society at large. The prevention and treatment of burn remains as a Major socioeconomic and medical need in India. Fire is a double-edged Weapon, which needs timely attention. The fires have been both blessing and Curse to making. Burn prevention is not only a rational and human goal but Also to cut the cost of burn-care (Keyshawn M.H). the

best treatment of Thermal injuries is undisputedly burn prevention. No campaign to prevent Burn accident can succeed until all the contributory factors are tackled Simultaneously. Therefore considering all these aspects, this study of “Incidence of Burns among Autopsies done at Govt. Medical College, Aurangabad” was carried out in the Dept. of Forensic Medicine and Toxicology at Govt. Medical College Aurangabad.

MATERIAL AND METHODS

This Cross-Sectional Observational study was carried out in The Dept. of Forensic Medicine and Toxicology at Govt. Medical college and Hospital Aurangabad, during the period of Jan-1999 to Dec-1999. Out of 1700 medico-legal autopsies, 200burn cases formed the material for present study. On these 200 cases complete autopsy was performed, samples for investigation were collected and viscera were forwarded for chemical analysis wherever necessary. This institute is a referral centre for whole Marathwada region and acts as an apex referral institute. After taking informed consent of the first degree relative of autopsy, the preliminary data, related to name, age, sex, address, brought by whom, time of admission, treatment given and the time of death were noted. The inquest was carefully read and post-mortem examination was done. Cases were studied on the basis of age, sex, marital status, methods and causes of burns. For noting the findings separate pro-forma was used. Results were analysed by calculating percentages.

OBSERVATIONS AND RESULTS

The study of incidence of Burns among autopsies was carried out in the Dept. of Forensic Medicine and Toxicology at Govt. Medical college, Aurangabad during the period of January 2015 to December 2015. Total 200cases were having burns among total 1700 autopsies reported during study period. The incidence of burns was found to be 11.76% (200/1700).

Table 1: Age wise distribution of Burn Autopsies

| Sr. No | Age group in yrs | No. of cases | Percentage |
|--------------|------------------|--------------|------------|
| 1 | Less than 10 | 08 | 04 |
| 2 | 11 – 18 | 15 | 7.5 |
| 3 | 19 – 25 | 53 | 26.5 |
| 4 | 26 – 32 | 44 | 22 |
| 5 | 33 – 39 | 43 | 21.5 |
| 6 | 40 – 46 | 7 | 3.5 |
| 7 | 47 – 53 | 20 | 10 |
| 8 | 54 – 60 | 04 | 02 |
| 9 | More than 60 | 06 | 03 |
| Total | | 200 | 100 |

Table No. 1 shows the highest number of burns cases i.e.26.5% were seen in the 19-25 yrs age group. Majorities of cases were seen in the age group 19-39) yrs

i.e. 70% of the total cases. The higher incidence in these age groups is attributed to their more exposure to fire appliances and activities on account of working near fireplaces. Also 4% cases were seen in the first decade of life. The incidence is lower in old age i.e. 5th and 6th decade as only 5%.

Table 2: Sex wise distribution of Burns Autopsies

| Sr. No. | Sex | No. of cases | Percentage |
|--------------|--------|--------------|------------|
| 1 | Male | 40 | 20 |
| 2 | Female | 160 | 80 |
| Total | | 200 | 100 |

Table No. 2 shows that out of 200 cases 160 were females and 40 were males. The male: female ratio was 1: 4, showing the female preponderance.

Table 3: Distribution of Burns Autopsies according to Marital Status

| Sr. No. | Marital Status | No. of cases | Percentage |
|--------------|----------------|--------------|------------|
| 1 | Married | 148 | 74 |
| 2 | Unmarried | 46 | 23 |
| 3 | Widow | 6 | 3 |
| Total | | 200 | 100 |

Table No. 3 shows that maximum numbers of cases of burns were amongst from married-(74%) as compared to unmarried (23%) and the widows were only 3%.

DISCUSSION

A person of any age is any walk of life or state of health at any time of Day. Suddenly become a victim of burn. A burn injury may range from very minor injury to a most severe form of injury. Most burns (90%), and most deaths as a result of them (98%), occur in low- and middle-income countries⁴⁻⁶. India contributes between 163 000 and 200 000 annual deaths to the global toll^{5,7}. The present study showed overall incidence of Burns among autopsies reported to a tertiary care hospital to be 11.74%. Almost similar finding was reported by Sachil Kumar⁸ from a total of 26,880 medico legal deaths reported at the mortuary of King George’s Medical University, over a period of 6 years 2008–2013, 2695 (10.02%) as incidence of deaths due to burns. But The annual incidence of severe burns was 0.2 to 2.9/10,000 inhabitants with a decreasing trend in time in European countries.⁹ Table No. 1 showed that maximum numbers of cases were the age range of 19-25 years (26.5%) followed by 26-32 years (22%). Various studies^{10,11,12,13} reported similar age incidence among burn cases between 19 to 35 years of age range. Table NO. 2 Shows that out of (200) burns cases females (160) outnumbered than males (40). The male to female ratio was 1:4. The reason for higher female incidence of burns may be due to unfavourable social environment for females in India. Higher female preponderance is also reported by various studies^{10,11,12,13}.

Table No. 3 shows that maximum numbers of cases of burns were amongst married (74%) as compared to unmarried (23%) and the widows were only 3%. ShindeAB¹⁴ at Pune reported higher incidence of burns among married couples. He reported various reasons for higher incidence of burns among females like torture by husband, marital disharmony and family quarrel. The reasons leading to homicidal burn injuries found were due to dowry demand, quarrel between husband and wife.

REFERENCES

1. Haq Mohsenul, Farheen Ayesha, Goli S K. Retrospective Analysis of Death due to Burns in Gulbarga Region; INDIAN JOURNAL OF FORENSIC MEDICINE and TOXICOLOGY 2017, Volume: 11 Issue: 1 Pages:208-212.
2. Darko DF. Analysis of 585 Burns patients hospitalized over six years period. Burns 1986; 12:392-4.
3. Goldman AS, Larson DL, Abston S. The Silent Epidemic. American J of Med Association 1972; 7-9.
4. Forjuoh SN. Burns in low- and middle-income countries: a review of available literature on descriptive epidemiology, risk factors, treatment, and prevention. Burns. 2006; 32:529–537.
5. Peck MD, Kruger GE, van der Merwe AE, Godakumbura W, Ahuja RB. Burns and fires from non-electric domestic appliances in low and middle income countries. Burns. 2008; 34:303–311.
6. Peck MD. Epidemiology of burns throughout the world. Part I: distribution and risk factors. Burns. 2011; 37:1087–1100.
7. Sanghavi P, Bhalla K, Das V. Fire-related deaths in India in 2001: a retrospective analysis of data. Lancet. 2009; 373(9671):1282–1288.
8. Nele Brusselselaers, Stan Monstrey, Dirk Vogelaers, Eric Hoste, and Stijn Blot. Severe burn injury in europe: a systematic review of the incidence, etiology, morbidity, and mortality. Crit Care. 2010; 14(5):
9. Sachil Kumar, Anoop K. Verma. Audit of burn deaths among older adults in North India – An autopsy-based study. Egyptian Journal of Forensic Sciences, Volume 6, Issue 4, December 2016, Pages 405-410.
10. Dalbir Singh. Amarjit Singh. Aditya K. Sharma. Lavina Sodhi. Burn mortality in Chandigarh zone: 25 years autopsy experience from a tertiary care hospital of India. Burns Volume 24, Issue 2, March 1998, Pages 150-156
11. NayakGajanan H, Sudhan Madhu S, Biradar Sunilkumar S, Kumar Ravindra C N, Raj Hemanth M N. Study of Trends of Death due to Burns Cases at Hubballi Region of Karnataka. MEDICO-LEGAL UPDATE Volume: 17 Issue: 1 Pages: 34-37.
12. Selvaraj T, Rajavelu K. Analysis of Burns Cases-in the Forensic Department of Government Madurai Medical College, Madurai during the Period from 1st January to 31 December 2015. MEDICO-LEGAL UPDATE Volume: 17 Issue: 1 Pages: 227-229.
13. Aramani Sunil C, Kumar Vijay A G, Aramani Shakuntala S, Patil Anand Epidemiology and Outcome of Burns Cases in Karad. MEDICO-LEGAL UPDATE Volume: 16 Issue: 2 Pages: 163-165.
14. Shinde A.B., Keoliya A.N. International J. of Healthcare and Biomedical Research, Volume: 1, Issue: 3, April 2013, Pages 227-233 227 www.ijhbr.com “Socio-demographic characteristics of burn deaths in rural India”.

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