



CHANGING PATTERN IN THE ETIOLOGY OF BURNS PATIENTS

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ABSTRACT Case Sheets of 422 adult patients with burns of 20% to 70% total body surface area were reviewed to determine the incidence of acute alcohol intoxication as an etiological factor and to assess the morbidity and mortality in them. 59% of patients were acutely intoxicated at the time of injury of which 72% were males. 28% were females who succumbed, due to the argument over alcohol abuse by their spouse. Evidence for chronic alcohol abuse was apparent in 90% of intoxicated patients. Alcoholic patients with burns not only had an overall mortality rate three times that of non-alcoholics, but also died of smaller surface area burns. Surviving alcoholic patients with burns required significantly more intravenous antibiotics and a longer duration of hospitalization. They also required close monitoring, as many of them had hepatic insufficiency. This adds burden to the socioeconomic status of the family as the breadwinning person gets indulged in such incidences while under the effect of alcohol and in few situations spouse also suffers, which adds insult to the already existing brunt. This emphasizes the acute need for appropriate health education for the public.

KEYWORDS : Alcohol, Burns, Suicidal, Mortality.

INTRODUCTION:

Burns are a global public health problem, which accounts for an estimated 1,80,000 deaths annually. Most of these occur in low / middle- income countries with two thirds of cases occurring in the African and South-East Asian regions. In India, over 1,000,000 people are moderately or severely burnt every year.⁽¹⁾ The epidemiology of burn injuries in developing countries is different from that in the developed world.⁽²⁾ According to the most recent data, females have slightly higher rates of death from burns when compared to males. This is associated with open fire cooking or inherently unsafe cook stoves, which can ignite loose clothing and self-directed or interpersonal violence are also factors (although understudied). There are a number of other risk factors for burns, among which alcohol abuse and smoking plays a role.⁽¹⁾

According to existing literature the incidence of suicidal burns were more in women due to dowry menace . Last year study in the pattern of suicidal burns showed equal number in men & women due to alcohol related quarrel. Government Rajaji Hospital, Madurai, is the main referral centre for burns in Tamil Nadu. Here we noted, that the incidence of burns was equal among both females and males especially alcoholics. Hence this study was conducted to assess the morbidity and mortality in the alcoholic patient with burns, to identify the prevalence, causes, sexual predominance, demographic profile of the burn victims and the extent of their injury.

MATERIALS & METHODS:

After obtaining Institutional Ethical committee clearance, this retrospective observational study was conducted by analyzing the case records of burns patients admitted in Burns ward , Government Rajaji Hospital, Madurai from March 2016 to February 2017.

Both men and women of age more than 25 years, with 20 -70degrees of burns admitted to this hospital during the study period were included in this study. Patient details like name, age, gender, occupation, education, address, smoking, alcohol intake and the cause for burns were recorded. The clinical and in-hospital outcomes of these burn cases along with details of treatment adopted prior to hospitalization were collected by the principal author and confirmed by the second author. The patient data was recorded for the extent of burn, etiology, method of extinguishing the flame and first aid received and finally clinical outcome in hospital. The data were entered in a Microsoft® Excel spreadsheet and analyzed using Chi Square Test.

RESULTS:

During the 12 months of study period, 422 patients were admitted with burns in this hospital. Of the 198 (46.92%) were men & 224 (53.08%) were women. Their age ranged from 25 – 60 years. (Fig. 1). The mean (\pm SD) was 36.09+ 9.82 for males and 36.26+ 10.07 years for females ($P=0.859$)

Analysis revealed that individuals belonging to the 25 to 34 years age group suffered from burns of the highest TBSA and the mean (\pm SD) was 29.81 \pm 2.74 which was statistically significant ($P<0.001$).

Regarding the etiology (Figure-2,3), 80 were accidental burns, 40 were due to seizures. 302 cases were with suicidal intention, of which 250 patients were due to alcohol related problems. Among the 250 patients 180 were males (72%) & 70 (28%) were females. (Figure 4)

DISCUSSION :

The risks associated with alcohol plays a prominent role in burn care, in that up to 50% who die from burn injury are intoxicated.^(3,4) Furthermore, use of alcohol at the time of burn injury increases the susceptibility to bacterial infection, suppresses cellular immunity,⁽⁵⁾ and provides a risk factor for hospital mortality.⁽⁶⁾ Recent reports indicate an upward trend of alcohol abuse in burns. In a meta-analysis involving 1,677 burn-related deaths, Smith et al found that approximately 40% were intoxicated at the time of injury (as defined by a BAC \geq 100 mg/dL). As per Smith et al., acute alcohol intoxication is associated with high frequencies of fatalities in burn patient.⁽⁷⁾ Grobmyer et al., in their study has shown that alcohol intoxication at the time of burn injury is an important predictor of complications in adult patients with burns.⁽⁸⁾ As per Jones et al., 27% of patients were acutely intoxicated at the time of burn injury. In our study, 59% were intoxicated at the time of burn injury. After quarelling with the spouse they themselves suicide or the spouses attempt suicide to threaten and insist stopping alcohol intake. Dowry related burns are low in incidence when compared with previous years. But the suicidal & homicidal attempts after taking alcohol is on the rise with the following statistics. This is a new area of psychosocial problem in alcoholics in addition to other health related issues. Under alcohol intoxication, the person loses his inhibitions, which paves way for many unwanted activities. In this study, we found that the morbidity and mortality are at a higher level, when compared to other patients without alcohol intake. Sexual predominance is towards males, as they have more exposure towards alcohol intake. Hence educating the society regarding the ill effects of alcohol becomes the need of the hour.

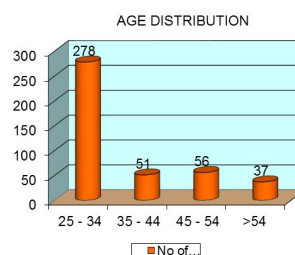
FIGURE-1 :

FIGURE 2

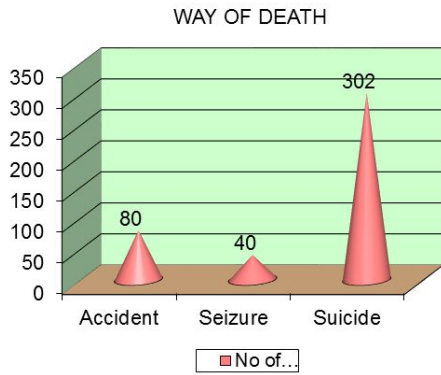


FIGURE 3

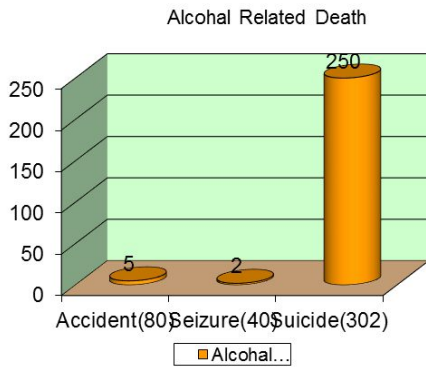
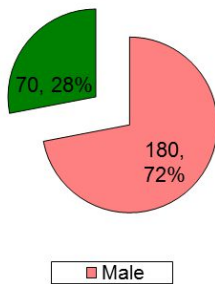


FIGURE 4:

Alcohol Related (Gender distribution)



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