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ORIGINAL ARTICLE

Autopsy Study of Poisoning Cases Reported in the Forensic Department: A Retrospective Study

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ABSTRACT:
Background: Death due to poisoning has been known since time immemorial. Poisoning is a major problem all over the world, although its type and the associated morbidity and mortality vary from country to country.Hence; we conducted the present study in the department of forensic medicine to analyse death occurring due to poisoning. **Materials & methods:** The present study was conducted in the department of Forensic medicine of the medical institute and it included autopsy assessment of poisoning cases reported in the forensic department of the medical institute. Data records from the archives of the department of forensic department were obtained. Detailed demographic data and pattern and etiology of occurrence of death were recorded. **Results**: Data records of a total of 2000 cases were obtained from the archives department of forensic medicine. Out of these 2000 cases, death occurred in 50 cases due to poisoning. There were 28 males and 22 females. Mean age of the cases included in the present study was 35.6 years. The overall incidence of occurrence of poisoning in the present study was 2.5 percent. Aluminium phosphide poisoning was the most common etiologic agent found to be present in 40 percent of the cases. **Conclusion**: Deaths due to poisoning represent a significant proportion of autopsy cases reporting in the forensic department. Hence; physicians should have adequate knowledge of various types of poisonings and their anti-dotes, so that death rate due to poisoning could be reduced.
Key words: Forensic, Poisoning, Snake bite.

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INTRODUCTION

Death due to poisoning has been known since time immemorial. Poisoning is a major problem all over the world, although its type and the associated morbidity and mortality vary from country to country.[1-3] Organophosphorus poisoning occurs very commonly in southern India, where farmers form a significant proportion of the population who commonly use organophosphorus compounds like parathion as insecticides. Thus, due to the easy accessibility of these compounds, a large number of suicidal cases are encountered in this region.[4- 6] The nature of poisoning varies in different parts of the world and even in the same country depending on the socioeconomic factors and cultural environment. Though poisoning is a universal phenomenon, knowledge of "the pattern of poisoning along with various parameters involved such as mode of poisoning, type of poison, outcome of the poisoning, the most common age group vulnerable to poisoning," will help us in rapid clinical diagnosis and immediate treatment of the cases.[7, 8]

Hence; we conducted the present study in the department of forensic medicine to analyse death occurring due to poisoning.

MATERIALS & METHODS

The present study was conducted in the department of Forensic medicine of the medical institute and it included autopsy assessment of poisoning cases reported in the forensic department of the medical institute. Ethical approval was obtained from institutional ethical committee and written consent was obtained after explaining in detail the entire research protocol. Data records from the archives of the department of forensic department were obtained. Detailed demographic data and pattern and etiology of occurrence of death were recorded. All the data were recorded in Microsoft excel sheet and were analysed by SPSS software. Chi-square test was used for assessment of level of significance.

RESULTS

Data records of a total of 2000 cases were obtained from the archives department of forensic medicine. Out of these 2000 cases, death occurred in 50 cases due to poisoning. There were 28 males and 22 females. Mean age of the cases included in the present study was 35.6 years. The overall incidence of occurrence of poisoning in the present study was 2.5 percent. Aluminium phosphide poisoning was the most common etiologic agent found to be present in 40 percent of the cases. Poisoning due to organo phosphorus compound and snake bites were present in 30 percent and 15 percent of the cases respectively.

Table 1: Descriptive result

Parameter	Number
Number of cases	50
Males	28
Females	22
Mean age (years)	35.6

Table 2: Incidence of poisoning

Total cases	Cases confirmed with poisoning	Incidence (%)
2000	50	2.5

Table 3: Distribution of incidence of poisoning

Type	Number of cases	Percentage
Aluminium phosphide	80	40
Chloro compound group of insecticide	40	20
Organo phosphorus compounds	30	15
Ethyl alcohol	25	12.5
Snake bite	15	7.5
Others	10	10

DISCUSSION

In the present study, data records of a total of 2000 cases were obtained from the archives department of forensic medicine. Out of these 2000 cases, death occurred in 50 cases due to poisoning. Vaidya YP et al assessed the pattern of poisoning in India along with various parameters, such as mode of poisoning, type of poison, outcome of the poisoning, the most vulnerable age group involved in poisoning, so that the study will help in rapid clinical diagnosis and immediate treatment of the cases leading to decreased mortality and morbidity. The study was conducted at Govt. Hospital, Yavatmal. Poisoning cases reported to casualty and post-mortem cases of poisoning brought to the hospital from 01/06/2003 to 30/05/2004 were included in the study. Total 1003 patients studied; acute poisoning in the age group of 21-30 years was the most common with higher frequency in males. Most common mode was suicidal. Most common agent responsible for poisoning was organophosphorus compounds followed by snake bite. Overall mortality due to poisoning was 12%. It was highest in insecticidal poisoning. It was seen that adults between 21 and 30 years of age were more prone to suicidal poisoning with organophosphorous compounds followed by accidental poisoning due to snake bite.[9]

In the present study, there were 28 males and 22 females. Mean age of the cases included in the present study was 35.6 years. The overall incidence of occurrence of poisoning in the present study was 2.5 percent. Aluminium phosphide poisoning was the most common etiologic agent found to be present in 40 percent of the cases. Poisoning due to organo phosphorus compound and snake bites were present in 30 percent and 15 percent of the cases respectively.Kumar SV et al characterized the poisoning cases admitted to the tertiary care hospital, Warangal district, Andhra Pradesh, Southern India. All cases admitted to the emergency department of the hospital between the months of January and December, 2007, were evaluated retrospectively. We reviewed data obtained from the hospital medical records and included the following factors: socio-demographic characteristics, agents and route of intake and time of admission of the poisoned patients. During the outbreak in 2007, 2,226 patients were admitted to the hospital with different poisonings; the overall case fatality rate was 8.3% (n = 186). More detailed data from 2007 reveals that two-third of the patients were 21–30 years old, 5.12% (n = 114) were male and 3.23% (n = 72) were female, who had intentionally poisoned themselves. In summary, the tertiary care hospitals of the Telangana region, Warangal, indicate that significant opportunities for reducing mortality are achieved by better medical management and further sales restrictions on the most toxic pesticides. This study highlighted the lacunae in the services of tertiary care hospitals and the need to establish a poison information center for the better management and prevention of poisoning cases.[10]

CONCLUSION

From the above results, the authors conclude that deaths due to poisoning represent a significant proportion of autopsy cases reporting in the forensic department. Hence; physicians should have adequate knowledge of various types of poisonings and their anti-dotes, so that death rate due to poisoning could be reduced. However; further studies are recommended.

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