

A Vignette on the Trend of Medicolegal Cases in a Tertiary Care Hospital in South India

Yogesh C¹, Amirthvarshan², Paranthaman², Priyanka²

¹Associate Professor, Department of Forensic Medicine, Velammal Medical College Hospital & Research Institute, Madurai, Tamil Nadu, ² Undergraduate, PSG Institute of Medical Sciences and Research, Coimbatore, Tamil Nadu

Abstract

Introduction: Profiling of medico-legal cases is an important aspect for the prevention of preventable casualties in future and to study the genuine crime in the area which contributes a substantial workload in casualty department.

Objectives: The aim of the study is to measure the incidence of medicolegal cases recorded in a tertiary care hospital in South India in one year.

Method: A retrospective analytical content based analysis was made on 776 medicolegal cases recorded in a tertiary care hospital in South India in one year from June 1st 2017 to May 31st 2018 and the results were tabulated.

Results: Of the 776 cases, 545 were men and 231 were women with RTA constituting 70.74% (549 cases) of the cases and poisoning with 10.69% (83 cases) of the cases forming the majority of the case profile.

Conclusion: The study concludes that road traffic accidents are the major causes of medicolegal cases recorded in a tertiary care hospital in South India. Preventive measures of better traffic control and road safety are to be instituted at the earliest. More number of medicolegal profiling should be conducted in every region for further measures.

Key words: *Medicolegal profile; RTA; Road safety; Casualty Department; Documentation.*

Introduction

A medico-legal case is a case of injury or illness where the attending doctor, after eliciting history and examining the patient, thinks that some investigation by law enforcement agencies is essential to establish and fix responsibility for the case in accordance with the law of the land¹. Common medico-legal cases include alleged cases of assault, road traffic accidents, burns, poisoning, snake bite, insect bite, industrial accidents, alcoholic intoxications etc.

Corresponding Author:

Amirthvarshan,

Undergraduate, PSG Institute of Medical Sciences and Research, Coimbatore, Tamil Nadu.

Email: amirth.singam@gmail.com.

Phone: 9894185565

The casualty department is backbone of every hospital because almost all cases of medical emergencies reported first to Casualty Department of hospital, and also Casualty Department also deals with the medico legal cases more frequently than any other department of hospital and so medico legal cases constitute substantial proportion of workload. A medico-legal register should be maintained in the casualty of every hospital and details of all medico-legal cases should be entered in this register, including the time and date of examination and the name of the doctor who is dealing with the case. This would be of immense help for future reference, when the patient through the court/ the police, requests for a copy of the medicolegal report. A case may be registered as an MLC even if it is brought several days after the incident².

The reporting of medico-legal cases is imperative to recognize the burden of medico legal cases, calculate

their risk and for the avoidance of preventable casualties in future.³ The idea is to initiate legal proceeding at the earliest so that maximum evidence can be collected to study the crime pattern in the area⁴. The mortalities and morbidities from all medico legal causes has been increasing at an alarming rate in our country and also throughout the world, yet to be controlled effectively; by the year 2020 mortality from injury will be more than those from communicable diseases⁵. Despite this documentation, injuries are still not well recognized as a major public health problem in our country⁶.

Profiling of medico-legal cases is an important aspect for the prevention of preventable casualties in future and to study the genuine crime in the area⁷. In spite of recent advancement of technology in the field of medical sciences, death and deformities due to all causes, are yet to be controlled successfully; rather incidences of road traffic accidents has been increasing at an alarming rate throughout the world⁸. Not all medicolegal cases are being recorded as many of them remain unnoticed even after there occurs a death of an individual. Hence, this study aims to find the profile of various medicolegal cases that was recorded in a tertiary care hospital in South India, most probably covering the data of south Indian population.

Method

A total of 776 medicolegal cases were studied that was recorded in one year from June 1st 2017 to May 31st 2018 in a tertiary care hospital in South India. It was a retrospective analytical study with secondary data obtained from the Medical Records Department in the hospital. It was based on content analysis where a proforma was formed related to the nature and details of the medicolegal cases that was used to obtain the data.

All age group registered with medicolegal cases and treated in the hospital were included in the study. Unregistered medicolegal cases and cases that were sent for further referral from the hospital were excluded from the study. The data was analysed and results were tabulated using simple tables and pie charts. Percentage calculations were made for better statistical reporting.

Results

Of the 776 cases analysed, 545 cases were males and 231 were females accounting for 70.2% and 29.8% respectively. Of all the 776 cases, 99.36% (771 cases) were alive and discharged post treatment and 0.64% (5

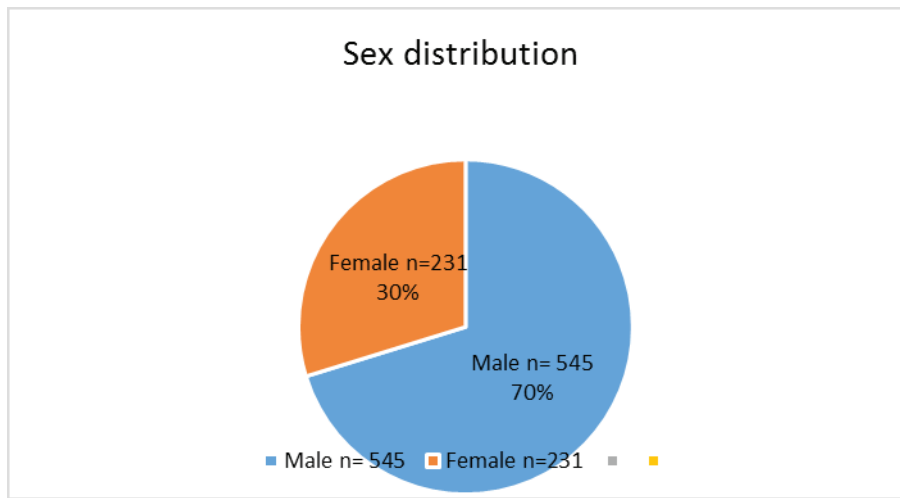
cases) were dead in spite of adequate medical care and all of them were due to severe RTA.

With regard to nature of medicolegal cases, 549 cases were due to road traffic accidents forming 70.7% of the total medico-legal cases. There are 30 cases of burns which contributes to 3.87% and 12 cases of assault which amounts to 1.54% of the total cases. 41 cases are due to fall from height constituting 5.28% of the total cases collected.

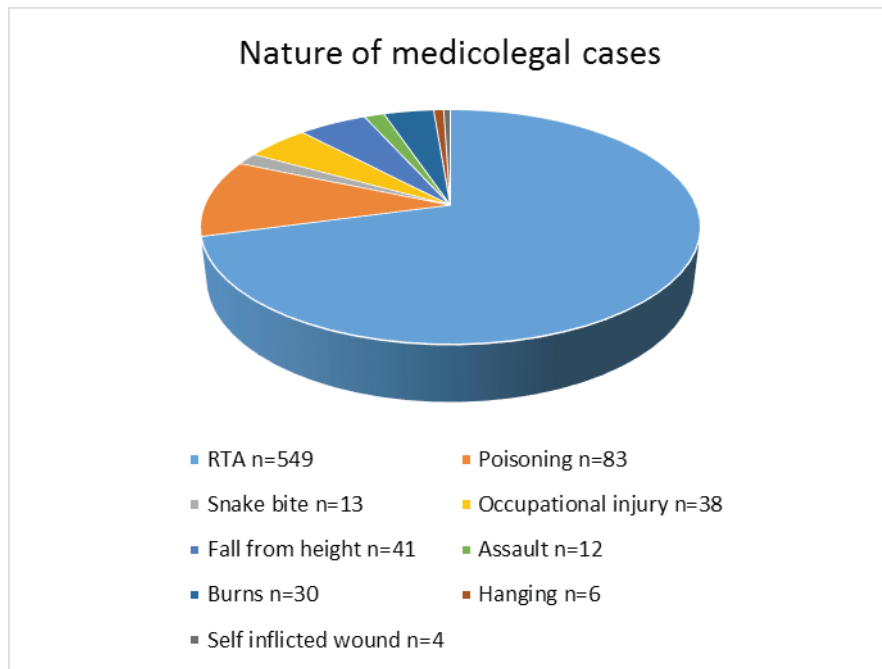
38 cases are due to occupational injuries which is about 4.89% of the total cases. 10 cases of snake bite and 3 cases of scorpion sting were collected constituting about 1.3% and 0.38% respectively. 6 cases of hanging and 4 cases of self-inflicted wound accounting to 0.77% and 0.51% respectively were collected. A total of 83 cases due to various poisoning were noticed resulting in 10.69% of all the cases. The details of each poisoning are given in the Table 1. Pie charts 1 and 2 are given to depict the sex distribution and the nature of medicolegal cases respectively.

Table 1: Types of poisoning

| Type of Poisoning | Number of cases | Percentage |
|----------------------------------|-----------------|------------|
| Cow dung poisoning | 21 | 25.30% |
| Rat killer poisoning | 10 | 12.04% |
| Antipsychotic poisoning | 3 | 3.61% |
| Unknown liquid poisoning | 2 | 2.40% |
| Ant killer and alcohol poisoning | 1 | 1.20% |
| Cleaning liquid poisoning | 2 | 2.40% |
| Insecticide poisoning | 4 | 4.81% |
| All out poisoning | 6 | 7.22% |
| Paracetamol poisoning | 5 | 6.02% |
| Benzodiazepine poisoning | 3 | 3.61% |
| OPC poisoning | 10 | 12.04% |
| Thyroid tablet poisoning | 1 | 1.20% |
| Alprazolam poisoning | 1 | 1.20% |
| Phenytoin poisoning | 1 | 1.20% |
| Ant killer poisoning | 2 | 2.40% |
| Harpic poisoning | 3 | 3.61% |
| Insecticide poisoning | 2 | 2.40% |
| Pesticide poisoning | 2 | 2.40% |
| Paraquat poisoning | 4 | 4.81% |



Pie chart 1: Sex distribution



Pie chart 2: Nature of medicolegal cases

Discussion

Medico-legal case is an integral part of medical practice that is frequently encountered by medical officers working in emergency department⁹. For such patients, not only treatment, but exhaustive documentation is also mandatory. It is the responsibility of a registered medical practitioner to judge each and every case properly and in doubtful cases, it is mandatory to inform the police as required by law. This saves the doctor from unnecessary and needless allegations later¹⁰.

Injuries account for 10.1% of the world burden of disease in 2013¹¹. In 1990, 5 million people died due to trauma and injuries. The number is expected to rise to 8.4 million by year 2020¹². Road traffic accidents will be the second most common cause of disability in the developing world¹³. In a retrospective study profile of medico-legal cases in the casualty department of Sri Aurobindo Medical College and PGI, Indore for a period of 1 year, from 1st June 2016 to 31st May 2017, Majority of cases about 57.70% were of road traffic accident (RTA)¹⁴. In our study that was done exactly one year after, 70.74% were RTA

showing the increasing trend of RTA year after year due to various factors like the increasing high speed vehicles, poor traffic control and adventurous mindset of the people especially youngsters.

Earlier reports demonstrated that everyday almost 700 people die from poisonings around the world and for every person that dies, several thousands more are affected by poisoning^{15,16}. It has been estimated that, in India five to six persons per lakh of population die due to acute poisoning every year¹⁷. Pattern of poisoning in a region depends on various factors which include availability and access to the poison, socioeconomic status of an individual, cultural and religious influences, etc. In India, as agriculture is the main occupation, insecticides and other agrochemical fertilizers are used to a greater extent and the poisoning with such products are more common¹⁸. This was similar to our study where total poisoning cases were found to be 10.69% (83 cases) of which cow dung (25.30%) and OPC along with rat killer poison (12.04%) constituting the bulk of the poisoning proving the fact they are more commonly used, available and easy to handle by the population.

One year retrospective study was carried out between 1st July 2012 to 30th June 2013 from the in the causality data of Government Medical College, Akola which revealed that Burns - 21.87% (449 cases) constituted majority of medico legal cases¹⁹, comparable to our study which has 3.87% (30 cases) of cases. The decrease in percentage may be attributed to better fire safety precautions and easy availability of fire service on call.

Considerable amount of occupational injuries were recorded which amounts to 4.89% (38 cases) of total cases. In a study of 173 medico-legal cases reported to the casualty department of Sri Siddhartha Medical College, Tumkur during the period from 1st January 2012 to 31st August 2013, 21 cases were recorded for occupational injuries²⁰. The rise may be due to rapid industrialisation in the past five years engaging more people in hazardous activities.

10 cases of snake bite were recorded in our study – a very lesser number because of the high industrial oriented occupation and less field related work and also better protective measures in houses and fields. The treatment of snake bite cases have gone a far way better in the recent decade with appropriate clinical management and anti-venom availability since there were no deaths among the 10 cases. This was similar to the study done

in tertiary care hospital in Bengaluru during the period of January 2013 to June 2013²¹.

Other cases such as assault and fall from height contributed to 1.54% (12 cases) and 5.28% (41 cases) respectively. The fall from height were mostly seen in young children mostly due to accidental slip and fall as a result of lack of attention. Overall, the medicolegal profile reflected on the alarming rise in RTA and a considerable amount of poisoning which may indicate the stress and depression level of the population though accidental poisonings have to be ruled out. Road traffic accidents and poisoning cases continue to be a growing menace, incurring heavy loss of valuable man-power and human resources in the form of death and disability along with a corresponding drain of potential economic growth²². There should be a road-safety program in which all the cities of our country must be ranked on the basis of various criteria like standard of roads, functioning of traffic signals, obeying of traffic rules by the citizens etc. Despite the weight of evidence, the importance of preventing and treating injuries in low and middle income countries has yet to be embraced by global public health community²³.

Poison prevention strategies can be implemented at various levels such as strict implementation of pesticide act, so that import, manufacture, sale, transport, distribution and use of pesticides can be under the supervision of the government and controlling access to dangerous pesticides and follow secure storage practice²⁴. Health education to adolescents at school and college level about poisoning and its first aid treatment and strict implementation of anti-dowry law, marriage counselling and women empowerment will help in decreasing the day to day tension in married life and decrease the incidence of poisoning among house wives.

Conclusion

The study concludes that road traffic accidents are the major causes of medicolegal cases recorded in a tertiary care hospital in South India followed by poisoning. The basic principles of injury prevention are education, engineering, uniform enforcement of law & order, pre-hospital care and the evaluation. Proper education, training for safety standards and behaviour modification are interlinked; and are required to be implemented in the community to prevent all kind of injuries including domestic violence. Injury related research should be increased; and improvement in health

care facilities and posttraumatic care should be worked on. Further large number of prospective studies should be carried out that would assist various organizations to set various causative risk factors, circumstances, chain of events; and the preventive measures accordingly to bring down the incidence of not only RTA but all medicolegal cases and shaping the future generation and society more towards being more humane and reaching the goal of World Peace.

Conflict of Interest: No.

Source of Funding: Nil.

Ethical Clearance: Yes

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