



## Profile of Medicolegal Cases of a Tertiary Care Hospital in Mumbai

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### OPEN ACCESS

#### Key Words

Medicolegal case, casualty, assault

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**Received:** 20 November 2023

**Accepted:** 16 December 2023

**Published:** 17 December 2023

**Citation:** Sachin Sonawane, Rajesh B. Sukhdeve, Shivkumar R. Kolle, Sarah Al Hinnawi and Shivprakash Shirale, 2023. Profile of Medicolegal Cases of a Tertiary Care Hospital in Mumbai. Res. J. Med. Sci., 17: 482-486, doi: 10.59218/makrjms.2023.12.482.486

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#### ABSTRACT

Medicolegal cases form an integral part of any hospital services, medical practitioners frequently encounter these cases. Therefore, there is a need to identify the complete profile of cases for administrators and doctors so that they may be well equipped and trained to deal with any kind of case. While there are a number of studies done all over India and the world, there was a dearth of literature on the topic in Mumbai. Hence, the study was undertaken in a tertiary care hospital in Mumbai to know the pattern, type, outcome, as well as consultation referral of medicolegal cases that report here. The study was conducted retrospectively by assessment of all medicolegal case records in the month of January 2022. Those MLC (medicolegal cases) which were registered in other hospitals were excluded. The results were expressed in frequency and percentage. A total of 1441 cases were reported in the month of January 2022. Among the reported cases, about 31.16% were in the age group of 21-30 years followed by 20.82% in the age group of 31-40 years. Majority if the cases reported were males forming almost 74%. About 25.82% of the cases reported were of assault followed by accidental fall, i.e., 21.65%. Almost 71% of the cases were treated and discharged on OPD (Out Patient Department) basis. Radiology was the most common department where referrals and consultation were done, having almost 43.51% of the total case load. Majority of the cases were male in the age group of 21-30 years. Assault has remained the most commonly registered MLCs. Radiology is the most common department which is referred to or consulted. Majority of the cases were treated and discharged on OPD basis. The study will help create awareness and guide the medical staff with regards to the medicolegal cases.

## INTRODUCTION

Medico-legal cases are integral part of the hospital services, medical practitioners are frequently encounter these cases. Proper documentation and examination of such cases is important to avoid future legal issues and to ensure the benefits to the next of kin. Most of the medico-legal services in the state are generally provided by government, semi government hospitals, however private and corporate hospitals also encounter medicolegal cases though the number may be lesser in comparison. The word "medico-legal" involves 2 facets-Medico+Legal.

A medico-legal case is any medical case that comes in conflict with law and requires investigation by police or legal authorities as per the rule of the land. It can also be defined as "any case of injuries or ailment, where the attending doctor after history and clinical examination considered that it requires the investigation by the law enforcing agencies to ascertain the circumstances and fix the responsibility regarding the said injury or ailment<sup>[1]</sup>."

It is the duty of a registered medical practitioner to judge or evaluate every case properly and thus in suspicious cases, it is better to inform the police. It saves the treating physician from unnecessary or unwanted and needless allegations afterwards. When emergency cases, be it medical or surgical, comes to the casualty of any hospital the Casualty Medical Officer (CMO) or Resident Medical Officer (RMO) is the first doctor to attend to the patient and give First Aid and save the life of patient. Another duty is to perform all medico-legal formalities concerned to patients. Profiling of Medico-legal cases is an integral aspect for avoiding causalities in future<sup>[2]</sup>.

Recent developments in both medical and legal fields along with the rising conflict between the common man and health care system has led to more circumstances to be included within the ambit of a medico legal case. All grievous injuries, be it sudden death due to administration of drug or medications or death on the operation table or unexplained deaths in the intensive care unit or unexplained death after surgery or any interventional procedure, referred patient dying under mysterious circumstances are being treated as medico legal cases. The reasons for these inclusions have been two-fold. Firstly, it reduces the conflicts between hospital authorities and patients' relatives who allege suspicious deaths, reduce negligence suits as well as helps law enforcement agencies. Secondly, it paves way for an autopsy which is supported by the officials from the police.

Many studies have been conducted on medicolegal cases and services across the country, but very few studies in Mumbai City and suburban. In view of scarcity of literature on the topic on the medicolegal cases in Mumbai city and suburban region, the present study was done to know the pattern and demographic

profile of patients of medicolegal cases and suggestions of improvement for the medicolegal services in Mumbai city and Mumbai suburban region.

## MATERIALS AND METHODS

An observational study was conducted retrospectively over a period of one month of January 2022 at a tertiary health care hospital in Mumbai. The study included all the patients whose MLC was registered by the on duty casualty medical officer at the hospital itself and not referred from other hospitals. Data was collected from the medicolegal registers of the casualty department by filling preformed case record form. Data like age and gender of patient, reason for doing MLC, type of MLC case (fall, assault, accidental injuries) medical examination as per legal provision was recorded in the form. The data was analyzed using descriptive statistics like frequency and percentages and compared with other studies and observations were presented in the form of tables and fig.

**Labelling a case as MLC:** The decision to label a case as MLC should be based on sound professional knowledge after detailed history taking and through clinical examination. A medical legal case should be registered as soon as possible as a doctor suspect the foul play or if he feels it is necessary to inform the police however it can be a register at any time after the admission. However, it must be remembered that resuscitation and saving the life of the patient takes precedence. Some examples of medicolegal cases are injuries due to assault or accident, suspected or evident cases of the suicide or homicide, confirm and suspected cases of poisoning, cases of thermal burns or scalds, cases of sexual offences, cases of suspected, confirmed criminal abortion, cases of child abuse, cases of domestic violence, person under the police custody or judicial custody, patient dying on operation table or during the administration of the drug, cases of drunkenness, cases of natural or manmade disasters, cases of drowning, cases of industrial accidents, electric current or lightning, drug abuse cases, bite cases including snake bites, scorpion bite, insect bite cases etc, cases of fall from height, all the cases referred from the court or from police for medicolegal examination.

## RESULTS

A total of 1441 cases were recorded as MLC cases in the MLC register of the hospital in the study period of January 2022. It included age ranges from less than one year to more than 90 years. Table 1 shows the age ranges of the cases that were recorded. Majority of the cases (31.16%) had a predilection for the second decade of life, i.e., age group 21-30 years while the least number of cases (0.62%) were seen in the extremes of age groups, i.e., <1 year and 81-90 years.

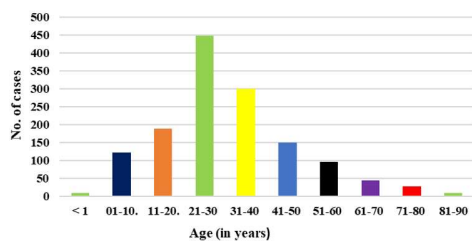


Fig. 1: Age-wise distribution of MLC cases

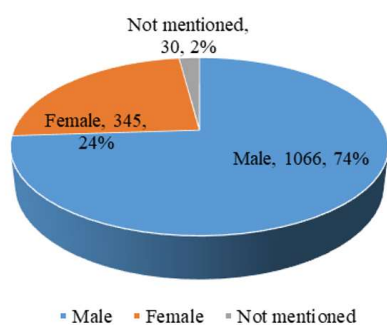


Fig. 2: Gender-wise distribution of cases

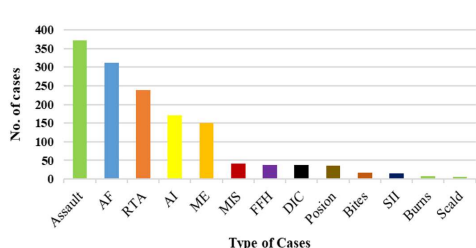


Fig. 3: Types of MLC cases

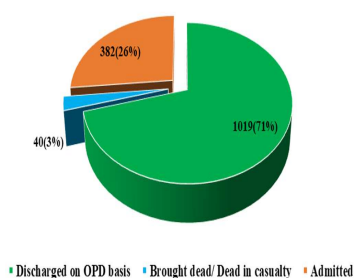


Fig. 4: Outcome of MLC cases in Casualty

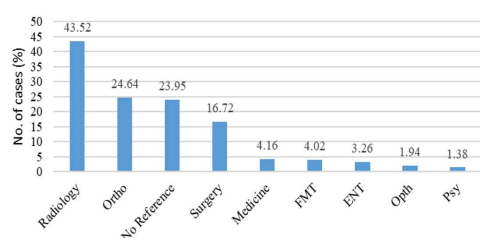


Fig. 5: Consultation with other department

Table 1: age distribution of cases

Age in years	No. of cases	Percentage
< 1	9	0.62
1-10 years	123	8.54
11-20 years	188	13.05
21-30 years	449	31.16
31-40 years	300	20.82
41-50 years	150	10.41
51-60 years	96	6.66
61-70 years	45	3.12
71-80 years	27	1.87
81-90 years	9	0.62
Not mentioned	45	3.12
Total	1441	100

Table 2: Genderwise distribution of cases

Gender	No. of cases	Percentage
Male	1066	73.98
Female	345	23.94
Not mentioned	30	2.08
Total	1441	100.00

Table 3: Distribution of Types of MLC cases

Type of cases	No. cases	Percentage
Assault	372	25.82
Accidental Fall (AF)	312	21.65
Road Traffic Accident (RTA)	239	16.59
Accidental Injuries (AI)	171	11.87
Medical Examination (ME)	150	10.41
Miscellaneous (MIS)	41	2.85
Fall From Height (FFH)	38	2.64
Brought dead/Death in casualty (DIC)	37	2.57
Poisoning	35	2.43
Bites	17	1.18
Self-Inflicted Injuries (SII)	15	1.04
Accidental Burns	8	0.56
Scalds	6	0.42
Total	1441	100

Table 4: showing outcome of MLC cases

Outcome	No. of cases	Percentage
Discharged on OPD basis	1019	70.71
Brought dead/ Dead in casualty	40	2.78
Admitted	382	26.51
Total	1441	100

Table 5: Distribution of referrals and consultations of the MLC cases

Department	No. of cases	Percentage
Radiology	627	43.52
Orthopaedics	355	24.64
No Reference	345	23.95
Surgery	241	16.72
Medicine	60	4.16
Forensic Medicine	58	4.02
ENT	47	3.26
Ophthalmology	28	1.94
Psychiatry	20	1.38
Total	1441	100

There were very few cases where age was not mentioned (3.12%). Table 2 shows the gender wise distribution of cases. Males showed an overall predominance over females and accounted for almost 3/4 th of the total number of cases, i.e., 74% with a male to female ratio of 3:1.

Table 3 shows the distribution of MLC cases as they are recorded when they report to casualty. The results show that assault is one of the most common type of MLC cases accounting for nearly 25.82% of the total cases. This was followed by accidental falls (21.65%) and road traffic accidents (16.59%). Table 4 shows the outcome of MLC cases in the casualty

department. It was observed that majority of the cases (71%) were discharged on OPD basis while rest (26%) were admitted in various wards of the hospital majority of them being in the surgery and orthopaedic ward followed by medicine. About a small number of cases (3%) were declared brought dead in the casualty.

Table 5 shows the consultation or referrals of the MLC with other departments of the hospital. It was seen that the most common department for referral, consultation was the Radiology department (43.51%) as majority of the cases were advised for the most common investigation of X-ray. This was followed by Orthopaedic department (24.64%). In about 345 cases (23.94%), no reference was done and cases were discharged on OPD basis. Consultation and referrals were mostly done with more than one department.

## DISCUSSIONS

The present study was conducted in a tertiary care hospital in the Western Suburbs of Mumbai to study the medicolegal cases that reported to Casualty in the month of January 2022. A total of 1441 cases were recorded along with their demographic data. The present study revealed that the majority of cases were in the second decade of life. These findings were consistent with studies done in Talegaon, Maharashtra having 36.46%<sup>[2]</sup>, Chiplun where the findings were 26.13% of the cases<sup>[3]</sup>. Studies done in Kolhapur, Trivandrum and Kakinada also revealed similar findings with relation to age range<sup>[4-6]</sup>. This may be due to the fact that it is the most active age group involved in outdoor activities and more prone to assault, road traffic accidents etc.

It was observed that MLC cases were more in males (74%) than females which was consistent with the study conducted at the tertiary care centre in Trivandrum<sup>[6]</sup>. Majority of the studies had similar findings i.e., studies done by Kharat *et al*<sup>[2]</sup> (75.41%), Shekhli *et al*<sup>[7]</sup> (69.8%), Tomar *et al*<sup>[8]</sup> (75%), Dake *et al*<sup>[5]</sup> (77%), Yattoo *et al*<sup>[9]</sup> (74%), Waghmode *et al*<sup>[3,4]</sup> (74%), Haridas *et al*<sup>[4]</sup> (80%), Nale<sup>[10]</sup> (97.12%), Mina *et al*<sup>[11]</sup> (79%) that showed a male predominance. This may be due to the similar reasons seen above as males are more active and are main and primary earners, hence they are more vulnerable to situations.

**Type of MLC:** The result revealed that the most common type of medicolegal case was that of assault comprising about 25.82% of the cases followed by accidental falls (21.65%) and road traffic accidents (16.59%). This was consistent with the studies done in a tertiary care centre in Kolhapur as well as in Kakinada where the findings were 28.90% and 19.5% respectively<sup>[4,5]</sup>. This was in contrast to studies done

by Kharat *et al*<sup>[2]</sup> (56.62%), Shekhli *et al*<sup>[7]</sup> (34.50%), Kulkarni *et al*<sup>[12]</sup> (54.34%), Tomar *et al*<sup>[8]</sup> (57.70%), Manju *et al*<sup>[6]</sup>, Dake *et al*<sup>[5]</sup> (73.97%), Kishore *et al*<sup>[13]</sup> (56.4%), Sarwar *et al*<sup>[14]</sup> (39.3%), Yattoo *et al*<sup>[9]</sup> (48%) who all observed that road traffic accident was the most common type of medicolegal cases seen. The reason for this could be attributed to the geographical and demographical variation of the population as the above studies were conducted in district health centres and tertiary health centres, while the present study was conducted in the metropolitan city of Mumbai with a heterogeneous population and different social structure.

**Outcome of MLC case:** The most common outcome in the present study of medicolegal cases recorded in the Casualty Department was discharge on OPD basis (71%) followed by admission (26%). The findings were concurrent with the outcomes reported by Kharat *et al*<sup>[2]</sup> which showed 54.41% were treated on OPD basis while 47.59% cases were admitted. A higher number was reported by Mir *et al*<sup>[14]</sup> where 81% were treated on OPD basis and 6-8% left against medical advice. Mina *et al*<sup>[11]</sup> found that a similar number of cases, i.e., 78.9% were discharged on OPD basis after consultation with the respective departments. This can be explained by the fact that there is awareness among the people of the health services as well as the effectiveness of the treatment provided in the tertiary health setup.

**Consultation with other departments:** The present study revealed that the most common department for referral/consultation was the Radiology department (43.51%) followed by Orthopaedic department (24.64%) and Surgery (16.7%). In a study conducted in Indore, the authors found that the most common department consulted was surgery (52.94%) followed by Orthopaedic department (43.28%). Opinion from single department was taken in 64.7% cases and two departments in 25.95% cases<sup>[8]</sup>.

## CONCLUSION

The age and gender distribution of medicolegal cases of the present study and previous studies were consistent, with the most common age group was 20-30 years and predominance of the male cases contributing more than 3/4th of cases seen. However, the most common types of medicolegal cases were differing. Most of the previous studies showed road traffic accidents as the most common types of the medicolegal cases. The present study showed a preponderance of assault cases. It could be due to the change in geographical location and social profile of

area studied. About 3/4th cases were treated on OPD basis in casualty. Most common investigation advised was X-ray with consultation was sought from radiology department.

Casualty or emergency department receives the majority of case load including medicolegal cases. In medicolegal cases, additional care and documentation is required to prevent unnecessary legal hassle later which put a lot of burden on the doctors. Thus, there is a need for sensitization and training of doctors to be able to handle carefully and give a clear opinion that can lead to proper administration of justice. Author Contributions All authors have equally contributed towards the study.

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