## ORIGINAL ARTICLE

# Analysis of Medico legal Cases Reported at a Medical College in Maharashtra

Vikrant Kalokhe<sup>1</sup>, Madhusudan Petkar<sup>2</sup>, Ramesh Gadhari<sup>3</sup>, Nagsen Kamble<sup>4</sup>, Rajendra Bangal<sup>5</sup>, Sandesh Datir<sup>6</sup>

## **ABSTRACT**

#### INTRODUCTION:

Medico-legal cases are very crucial from legal point of view. Lots of controversies and conflicts are associated with such type of cases so there was need to analyze these cases. To fulfill this objective present study was conducted.

**Objectives:** To analyze medico-legal cases referred to the hospital of ACPM Medical College, Dhule, Maharashtra.

METHODOLOGY: Retrospective study was done by assessing the MLC cases referred to A.C.P.M. Medical College during the period from 1st January 2021 to 31st December 2021.

OBSERVATIONS: In the year 2021 total 341 MLC cases were reported to the hospital of ACPM medical college. Out of these males were 276 (80.93%) & females were 65 (19.06%). Most commonly involved age group was 21-30 years (n= 108, 31.67%). Most commonly affected people were Hindu (n=303, 88.85%) which was followed by Buddhist (n=21, 6.15%). Maximum incidences occurred in rural region (n=266, 78%). Road traffic accident (n=205, 60.11%) comprised of the most of medico-legal cases, followed by fall (n=42, 12.31%) and assault (n=30, 8.79%). Maximum number of cases were noted in month of July (n=42, 12.31%) followed by October (n=40, 11.73%). When seasonal variation was considered, maximum incidences occurred during winter months of October to January (40.76%, n=139). Total 241 MLC cases (70.67%) were treated on OPD basis. Majority of MLC cases (n=269, 78.88%) were discharged after complete recovery.

Conclusion: It was observed that majority of medico-legal cases were due to road traffic accidents. So burden of these cases can be reduced by minimizing road traffic accidents. In view of this, appropriate measures are required. Casualty Medical Officers should be trained to handle such MLC cases and consult with Department of Forensic Medicine for appropriate documentation of these cases.

KEYWORDS | Medico-legal Cases; Controversies; Retrospective Study; Males; Hindu; Rural Region; Road Traffic Accident.

#### **Author's Credentials:**

<sup>1</sup>Associate Professor & HOD. Department of Forensic Medicine & Toxicology, A.C.P.M. Medical College, Dhule 424001, Maharashtra, India, <sup>2,5,6</sup>Professor, Department of Forensic Medicine & Toxicology, Symbiosis Medical College for Women, Symbiosis International (Deemed University), Pune 412115 Maharashtra, India, <sup>3</sup>Associate Professor & HOD, <sup>4</sup>Associate Professor, Department of Forensic Medicine & Toxicology, S.B.H. Government Medical College, Dhule 424001, Maharashtra, India.

#### **Corresponding Author:**

Vikrant Kalokhe, Associate Professor & HOD, Department of Forensic Medicine & Toxicology, A.C.P.M. Medical College, Dhule 424001, Maharashtra, India.

Email: vikrant\_kalokhe@yahoo.co.in

Received on: 20.06.2022 **Accepted on: 23.08.2022** 



How to cite this article: Vikrant Kalokhe, Madhusudan Petkar, Ramesh Gadhar, et. al./Analysis of Medico legal Cases Reported at a Medical College in Maharashtra. Indian J Forensic Med Pathol.2022;15(3):163-169.

#### INTRODUCTION

Medico-Legal Case can be defined as a Acase of injury or ailment, etc., in which investigations by the law-enforcing agencies are essential to fix the responsibility regarding the causation of the injury or ailment. It is a medical case with legal implications for the attending doctor, after eliciting history and examining the patient, thinks that some investigation by law enforcement agencies is essential. It may be a legal case requiring medical expertise when brought by the police for examination. Every doctor under law bounded by a contract to serve its patient and cannot refuse treatment. Every doctor has to fulfill certain legal requirements in service by compulsion or voluntarily as defined under law. Medico-legal case (MLC) examination and reporting is one of the legal responsibilities of all doctors working in a hospital.1

A part from medical emergencies, emergency ward also deals with the medico-legal cases more frequently than any other department of a general hospital. The medico-legal cases contribute to the workload of the clinician at the emergency ward. Emergency ward is a common entry point for such cases, as most cases require urgent medical attention as well.2

Knowledge of types of medico-legal cases brought to casualty / emergency department is of paramount importance to make corresponding arrangements to deal with them. This is also important for law enforcement agencies as they can take preventive and corrective measures to reduce the number of such medico-legal cases.3

Hence it is very important for every doctor to take utmost care to avoid legal complications. Considering the gravity of this subject, a retrospective study was conducted in ACPM Medical College by detailed profiling of the medico-legal cases reported during the period from 1st January 2021 to 31st December 2021.

#### **OBJECTIVES**

To analyze the medico-legal cases reported at

A.C.P.M. Medical College, Dhule, Maharashtra with respect to associated factors like age, sex, religion, place of incidence, cause of MLC, month and season wise distribution of cases, timing of incidence, type of admission and outcome of case. By doing detailed analysis, definite conclusion can be drawn and preventive measures to reduce the burden of MLC can be suggested.

#### **METHODOLOGY**

This was retrospective study. During this study indoor as well as outdoor papers of total 341 medico-legal admitted during the period from 1st January 2021 to 31st December 2021 were obtained from MRD section of the hospital and thoroughly scrutinized. Cases were analyzed systematically by filling properly designed proformas. For present study parameters like age, sex, religion, place of incidence, timing of incidence, cause of MLC, month wise distribution of cases and outcome of cases were considered. Then data was properly tabulated and compared with similar studies.

# **OBSERVATIONS**

In the year 2021 total 341 MLC cases were reported to the hospital of ACPM medical college. Out of these male were 276 (80.93%) & female were 65 (19.06%). It clearly indicates that males out numbered the females. Most commonly involved age group was 21-30 years (n=108, 31.67%) followed by age group 31-40 years (n=86, 25.21%) and age group 11-20 years and age group 41-50 years comprising 43 cases (12.60%) and 37 cases (10.85%) respectively. Least commonly affected age group was 71-80 years which included 5 cases (1.46%). No cases were observed in age group more than 81 years. Amongst the male, age group 21-30 years consist maximum cases 92 (33.45%) and in female age group 31-40 years was commonly affected (n=20,30.76%). (Table 1)

Table 1: Distribution of cases according to age groups and sex.

Age in years	Male	Female	Total MLC cases
0-10	11	05	16 (4.69%)
11-20	38	05	43 (12.60%)
21-30	93	15	108 (31.67%)
31-40	66	20	86 (25.21%)
41-50	32	05	37 (10.85%)
51-60	22	10	32 (9.38%)
61-70	11	03	14 (4.10%)
71-80	03	02	05 (1.46%)
>81	00	00	00
Total	276	65	341 (100%)

As per the table no 2 most commonly affected people were Hindu (n=303, 88.85%) which was followed by Buddhist (n=21, 6.15%), Muslim (n=14, 4.10%) and Christian constituted list number of cases (n=3, 0.87%). When we consider urban and rural difference maximum incidences were occurred in rural region (n=266, 78%) and 75 (21.99%) incidences occurred in urban region.

Table 2: Distribution of cases according to religion and place of

Religion	Urban	Rural	Total MLC cases
Hindu	60	243	303 (88.85%)
Muslim	06	08	14 (4.10%)
Buddhist	08	13	21 (6.15%)
Christian	01	02	03 (0.87%)
Total	75	266	341 (100%)

As per the cause of cases, road traffic accident (n=205, 60.11%) comprised of the most of medico-legal cases, followed by fall (n=42, 12.31%) and assault (n=30, 8.79%). Other

causes are mentioned in table no. 3. It is obvious that RTA was dominant cause and least common cause was self hanging. Only one case (0.29%) of self hanging was observed.

**Table 3:** Distribution of cases according to cause and sex.

Cause	Male	Female	Total MLC cases
Road traffic accident	166	39	205 (60.11%)
Assault	25	05	30 (8.79%)
Poisoning	18	08	26 (7.62%)
Fall	37	05	42 (12.31%)
Alcoholic intoxication	02	00	02 (0.58%)
Accidental burn	02	02	04 (1.17%)
Electrocution	03	01	04 (1.17%)
Bull injury	03	00	03 (0.87%)
Injury due to machine/ instrument	16	02	18(5.27%)
Fall of heavy material	04	02	06(1.75%)
Self hanging	00	01	01 (0.29%)
Total cases	276	65	341 (100%)

As per table no 4 maximum number of cases were noted in month of July (n=42, 12.31%) followed by October (n=40, 11.73%) and January (n=39, 11.43%) and least number of cases were noted in month of April (n=6, 1.75%). When seasonal variation is considered, maximum incidences occurred during winter months of October to January (40.76%, n=139) followed by rainy months of June to September (37.24%, n=127) and summer months of February to May (21.99%, n=75). Most of the incidences occurred in time slot 12 pm to 6 pm (120) which was followed by 108 cases in time slot 6 pm to 12 pm, 91 cases in time slot 6 am to 12 pm. So it was quite clear that peak was observed during 12 pm to 6 pm and less incidences (12) were occurred during 12 am to 6 pm. (Table 4)

**Table 4:** Distribution of cases according to month and timing of incidence.

Month		Total MLC cases				
	12 am to 6 am	6 am to 12 pm	12 pm to 6 pm	6 pm to 12 am	Not known	<b>-</b>
January	01	06	16	15	01	39 (11.43%)
February	04	06	06	09	02	27 (7.91%)

Total	12	91	120	108	10	341 (100%)
December	00	12	12	09	00	33 (9.67%)
November	02	08	11	06	00	27 (7.91%)
October	00	06	18	14	02	40 (11.73%)
September	00	05	08	11	01	25 (7.33%)
August	00	09	15	10	00	34 (9.97%)
July	04	14	13	10	01	42 (12.31%)
June	00	11	07	08	00	26 (7.62%)
May	00	05	08	04	00	17 (4.98%)
April	01	00	02	01	02	06 (1.75%)
March	00	09	04	11	01	25 (7.33%)

Out of 341 MLC cases, 98 cases (28.73%) were registered as IPD cases, 241 cases (70.67%) were OPD cases and 2 cases were brought dead. (Table no. 5)

**Table 5:** Distribution of cases according to type of admission.

Type of Admission	Male	Female	Total MLC cases
OPD		16	241 (70.67%)
טאט	195	46	, ,
Indoor	79	19	98 (28.73%)
Brought Dead	02	00	02 (0.58%)
Total cases	276	65	341 (100%)

Table no 6 indicates that out 341 MLC cases, 269 cases (78.88%) were discharged after complete recovery. Out of 4 deaths, in 2 cases death was occurred despite of treatment and remaining 2 were brought in dead cases. 19 cases (5.57%) referred to other hospitals for special treatment or for the treatment which was not available in the institute. In 49 cases (14.36%) discharge was taken against medical advice.

**Table 6:** Distribution of cases according to outcome of case.

Outcome of case	Male	Female	Total MLC cases
Discharged	224	45	269 (78.88%)
Death	04	00	04 (1.17%)
Referred	15	04	19 (5.57%)
Discharge against medical advise	33	16	49 (14.36%)
Total cases	276	65	341 (100%)

#### DISCUSSION

In our study, there was predominance of males (80.93%) over females (19.06%) with a ratio of 4.24:1. Our findings are consistent with the studies conducted by AK Yadav et al.2, Ashok Gupta and Bhola Kumar Singh3, Vishal Garg and S.K. Verma<sup>4</sup>, SN Hussaini et al.5, Jitendra Pratap Singh et al.6, Jitendra Tomar et al.7, Manoj Kumar Korah et al.8, Mohammed Sarwar Mir et al.9. Kharat and Rahul V. Kedare<sup>10</sup>, Raju K and Hemanth Raj M N<sup>11</sup>, Romana Malik et al.<sup>12</sup>, Sham Kishore K et al.<sup>13</sup> Males have financial responsibility of family so that naturally they are involved in outer activities making them vulnerable for road traffic accidents, industrial accidents, inter personal conflicts and suicidal tendencies due to financial burden. These could be the reasons for more involvement of males. Most commonly involved age group was 21-30 years (n=108, 31.67%) followed by age group 31-40 years (n=86, 25.21%). Least commonly affected age group was 71-80 years which included 5 cases (1.46%). Similar finding are also reported by SN Hussaini et al.5, Jitendra Pratap Singh et al.<sup>6</sup>, Jitendra Tomar et al.<sup>7</sup>, Manoj Kumar Korah et al.8, Mohammed Sarwar Mir et al.9, Rajesh D. Kharat and Rahul V. Kedare<sup>10</sup>, Shreedhar N.C et al.14, Mahesh M. Trangadia et al.15, Vimal Bharti et al.16 and Avinash H. Waghmode et al.<sup>17</sup> This age group is physically and socially highly active hence it is commonly involved. At the same time aggressive behavior and careless attitude is also contributing factor.

Most commonly affected people were Hindu (n=303, 88.85%) which was followed by Buddhist (n=21, 6.15%), Muslim (n=14, 4.10%) and Christian constituted list number of cases (n=3, 0.87%). Similar findings were noted by Rajesh D. Kharat and Rahul V. Kedare<sup>10</sup> and Shreedhar N.C et al.14 It was because of North Maharashtra region has a predominantly of Hindu population.

In our study we found that maximum incidences were occurred in rural region (n=266, 78%) and 75 (21.99%) incidences occurred in urban region. As our institute is situated in outskirt of city and good connectivity to rural areas, more number of people from rural areas are referred to the institute. Lack of education, poor road conditions, lack of safety measures at working places and land disputes may be the reasons for majority of cases belonged to the rural region. This was consistent with the study of Vishal Garg and S.K. Verma<sup>4</sup>, Mohammed Sarwar Mir et al.9, Vimal Bharti et al.16, Avinash H. Waghmode et al. 17 while contradictory findings were noted in the study of SN Hussaini et al.5 and Jitendra Pratap Singh et al.6 in which urban victims are more in numbers.

As per the cause of cases, road traffic accident (n=205, 60.11%) comprised of the most of medico-legal cases, followed by fall (n=42, 12.31%) and assault (n=30, 8.79%). Our findings are consistent with the studies conducted by AK Yadav et al.2, Ashok Gupta & Bhola Kumar Singh<sup>3</sup>, Vishal Garg and S.K. Verma<sup>4</sup>, Jitendra Pratap Singh<sup>6</sup>, Jitendra Tomar et al.<sup>7</sup>, Manoj Kumar Korah et al.8, Mohammed Sarwar Mir et al.9, Rajesh D. Kharat and Rahul V. Kedare<sup>10</sup>, Raju K and Hemanth Raj M N<sup>11</sup>, Romana Malik et al.12, Sham Kishore K et al.13, Mahesh M. Trangadia et al.<sup>15</sup>, Vimal Bharti et al.<sup>16</sup>, Avinash H. Waghmode et al.<sup>17</sup> and Yatoo G H et al.<sup>18</sup> However, our findings are not consistent with the study of SN Hussaini et al.5, Shreedhar N.C et al.14 Major reason for such a huge cases of RTAs may be the location of our institute alongside 2 major highways where RTAs are very common. Other reasons could be the not following the traffic safety rules like not wearing helmets, high speed driving, driving under influence of alcohol and rash driving. Non availability of traffic controlling authority

may be contributory factor.

In present study maximum number of cases were noted in month of July (n=42, 12.31%) followed by October (n=40, 11.73%) and January (n=39, 11.43%) and least number of cases were noted in month of April (n=6, 1.75%). When seasonal variation is considered, maximum incidences occurred during winter months of October to January (40.76%, n=139). These results are not consistent with the most of studies. Study of Vishal Garg and S.K. Verma<sup>4</sup>, SN Hussaini et al.<sup>5</sup>, Manoj Kumar Korah et al.8, Romana Malik et al.12, Shreedhar N.C et al.<sup>14</sup> and Mahesh M. Trangadia et al.<sup>15</sup> indicates that majority of cases occurred in rainy season while study of Mohammed Sarwar Mir et al.<sup>9</sup> and Avinash H. Waghmode et al.<sup>17</sup> shows that maximum incidences happened in summer. Most of the incidences occurred in time slot 12 pm to 6 pm (120) which was followed by 108 cases in time slot 6 pm to 12 pm while minimal incidences were occurred during 12 am to 6 pm (12). It is clear that maximum incidence of medico-legal cases took place between 12 p.m. to 12 a.m. During this time people are maximally involved in outdoor activities hence they are prone to road traffic accidents, accidents at work place and assaults. During time period between 6 p.m. to 12 a.m. people are vulnerable for road traffic accidents due to poor visibility and alcohol consumption habit. This is consistent with the study of Vishal Garg and S.K. Verma4, Shreedhar N.C et al.14, Mahesh M. Trangadia et al.<sup>15</sup>, Vimal Bharti et al.<sup>16</sup>, Avinash H. Waghmode et al.<sup>17</sup> and Yatoo GH et al.18

Out of 341 MLC cases, 98 cases (28.73%) were registered as IPD cases, 241 cases (70.67%) were OPD cases and 2 cases were brought dead. Similar observation was made by Rajesh D. Kharat and Rahul V. Kedare<sup>10</sup> and Mahesh M. Trangadia et al.<sup>15</sup> in their studies while this observation was not consistent with the study of Shreedhar N.C et al.14 In most of the cases, injuries were minor hence they were treated on OPD basis consequently the OPD number was more than the IPD number.

From the present study it is clear that out 341 MLC cases, 269 cases (78.88%) were discharged after complete recovery. Out of 4 deaths, in 2

cases death was occurred despite of treatment and remaining 2 were brought in dead cases. 19 cases (5.57%) referred to other hospitals for special treatment or for the treatment which was not available in the institute. In 49 cases (14.36%) discharge was taken against medical advice. Similar findings were observed in the study of Vishal Garg and S.K. Verma<sup>4</sup>, Mohammed Sarwar Mir et al.9, Rajesh D. Kharat and Rahul V. Kedare<sup>10</sup>, Shreedhar N.C et al.<sup>14</sup> and Mahesh M. Trangadia et al.<sup>15</sup> All these studies indicate the effectiveness of tertiary care centre in treating the patients.

#### CONCLUSION

It is quite obvious that majority of medicolegal cases were due to road traffic accidents. So burden of these cases can be reduced by minimizing road traffic accidents. Concerned with these, following measuresshould be taken to reduce road traffic accidents:

- Road traffic safety programs needs to be conducted for awareness of society.
- More focus is to be given on quality of roads and safety measures.

Strict vigilance of law enforcement agency is required to check the careless behavior and drunk and drive habits while driving vehicles.

Majority of MLC cases are handled by casualty medical officers and resident doctors. Surprisingly these doctors have casual attitude while handling such cases and reflected in the form of poor history taking, improperly written indoor papers, wrong opinion, improper medico-legal examination report, improper sample collections. Ultimately these things are going to mislead the law enforcement agencies and become an obstacle in achieving the objective of disbursement of justice. In this scenario department of Forensic Medicine has a pivotal role to tackle such legal complications by conducting special training programs for the doctors who are handling MLC cases and their medico-legal work should be supervised constantly.

# **Conflict of Interest:**

There is no conflict of interest among the authors.

#### Source of Funding:

The author declares that this is a self-funded research project.

# REFERENCES

- 1. Medicolegal Case-An Overview>>IILS Blog. Indian Institute of Legal Studies. Available from: https://www.iilsindia. com>blogs. (Last cited on 2022 March
- 2. AK Yadav, B Shah, SS Budhathoki, S Chaudhuri, BD Aryal, GB Malla. Profile of Medico-legal Cases Coming to Emergency ward of B. P. Koirala

Institute of Health Sciences, Journal of B.P. Koirala Institute of Health Sciences, 2018;1(2):50-56.

- 3. Ashok Gupta & Bhola Kumar Singh. Pattern of Medicolegal Cases in a Tertiary Care Hospital in North India. IAR Journal of Medical Sciences, July-August, 2021; 2(4): 56-58.
- 4. Vishal Garg and S.K. Verma.

Profile of Medicolegal Cases at Adesh Institute of Medical Sciences and Research, Bathinda, Punjab. Journal of Indian Academy of Forensic Medicine, April-June, 2010; 32(2): 150-152.

- 5. SN Hussaini, CS Kulkarni, AK Batra. Profile of Medico-Legal Cases Comina to Casualty of Government Medical College, Akola. Journal of Forensic Medicine, Science and Law, July-December, 2013; 22(2).
- Jitendra Pratap Singh, Mukesh Kumar Bansal and Mukesh Yadav. Profile of Medico-legal Cases in Casualty of a Tertiary Care Hospital in Delhi. Indian Internet Journal of Forensic Medicine & Toxicology, April-June, 2021; 19(2): 27-31.
- Jitendra Tomar, Abhishek Varun, Manish Nigam, Pradeep K. Mishra, Pankaj Verma.

Profile of medico-legal cases in the Casualty of SAMC and PGI, Indore. Indian Journal of Forensic and Community Medicine, July-September, 2017;4(3):171-175.

Manoj Kumar Korah, Jyotish Guria, Tulsi Mahto, Ajay Bhengra.

Profile of Medicolegal Cases at

- Rajendra Institute of Medical Sciences, Ranchi, Jharkhand from 2014-2015. IOSR Journal of Dental and Medical Science, November, 2016;15(11):12-
- Mohammed Sarwar Mir, Faroog A. Jan, G.H Yatoo, Ifrah Khalil, Shaista Ganai, Humera Irshad.

Profile and Pattern of Medico-Legal Cases in a Tertiary Care Hospital of North India. Journal of Medical Science and Clinical Research, September, 2016; 4(9):12628-12634.

10. Rajesh D. Kharat, Rahul V. Kedare. Profile of Medico-Legal Cases in Casualty Department of Rural Medical College, Maharashtra: Retrospective Study of One Year. Indian Journal of Forensic Medicine and Pathology, April-June, 2019; 12(2):152-155.

# 11. Raju K, Hemanth Raj M N.

Profile of medico-legal cases at tertiary care centre. Internal Journal of Recent Trends in Science and Technology, May, 2015; 15(1): 68-70.

12. Romana Malik, Iffat Atif, Farah Rashid, Maqbool Abbas.

> An analysis of 3105 Medico Legal Cases at Tertiary Care Hospital, Rawalpindi. Pakistan Journal of Medical Science, 2017;33(4):926-930.

13. Sham Kishore K, K H Thippeswamy, K B Suryakumar.

> A Profile of Medico Legal Cases in a Tertiary Centre of Rural Karnataka. Journal of Karnataka Medico-legal Society, July- December, 2016; 25(2): 6-9.

14. Shreedhar N.C, Chandan.V, Shreekrishna H K.

Retrospective Study of Profile of

Medico-legal Cases at Basaveshwara Medical College, Chitradurga. Medico-legal Update, October-December, 2021; 21(4):348-355.

15. Mahesh M. Trangadia, Rahul A. Mehta, Nita H. Rada, B. D. Gupta.

Profile of medico-legal cases in tertiary care hospital in Jamnagar, Gujarat: Retrospective study of one year. Journal of Research in Medical and Dental Science, October -December, 2014; 2(4): 57-62.

16. Vimal Bharti, Aashish Chaudhary, Simarjot, Ashok Sharma, Rajesh Kashyap, Pramod Jaret, Amit Sachdeva.

Profile of Medico-Legal Cases in Casualty of a Tertiary Care Hospital in Hilly City Of Himachal Pradesh. Scholars Journal of Applied Medical Sciences, October, 2017; 5(10A):3848-3850.

17. Avinash H. Waghmode, Pravir Bodkha, Ruchira R. Chavan.

Study of medico-legal cases admitted at tertiary care hospital. International Journal of Forensic Medicine and Toxicological Sciences, January-March, 2020;5(1):1-4.

18. Yatoo G H, Jalali S, Malik Aubid & Khan Amir.

> Profile and Pattern of Medico Legal Cases Attending Tertiary Care Hospital in North India. International Journal of Medicine and Pharmaceutical Sciences, October, 2015; 5(5): 1-8.

