

Study of medico-legal cases admitted at tertiary care hospital

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Abstract

In every hospital, Casualty department deals with the emergency cases. These emergency cases also includes medicolegal cases like road traffic accidents, Poisoning, assaults are dealt in the casualty and detailed MLC report is made here after giving the proper primary treatment and life saving measures. The police is informed about MLC as early as possible. Important preventive measures like drawing public attention and awareness towards traumatic casualties can help in the prevention or management of unnatural (medicolegal cases). Considering the importance of above points, a one year retrospective study from 1st March 2018 to 31st March 2019 was conducted in the Casualty department of Tertiary Care Centre.

Keywords: Medicolegal cases, Tertiary Care, Road Traffic accidents, Poisoning, assaults, Suicidal, Homicidal, Accidental, Casualty.

Introduction

A Medicolegal 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 land.¹ Injury is defined under Sec. 44 I. P. C. as any harm whatever illegally caused to any person in body, mind, reputation or property.² Casualty department is the backbone of every hospital as all the medical and surgical emergencies first report to emergency and also deals with a huge number of medicolegal cases which comprises accidents, assaults, burns, poisoning, suicide, homicide, any suspicious deaths, cases referred from Police or court, etc.³ Medicolegal cases forms a major component of the emergencies brought to the casualty department of the hospital. Profiling of medicolegal cases is an integral aspect for the prevention of preventable casualties in future and to study the burden of the medicolegal cases in area. Hospital based study of such cases is important because it may give an insight into value system and crime profile of the society.⁴ Road traffic accidents have been increasing at an alarming rate throughout the world.⁵ By the year 2020, it is estimated that in countries like India, mortality from injuries will be more than those from communicable diseases.⁶

The present study was conducted to find out the different categories of medicolegal cases and characteristics of the victims documented at the Casualty of B.K.L. Walawalkar Hospital, Savarde and also to study the duties of medical and paramedical staff in handling /treating such cases.

Objectives

1. To find out the frequency of various types of medicolegal cases at Casualty of B.K.L. Walawalkar Hospital, Savarde.
2. To know about procedures being followed in medicolegal cases in B.K.L. Walawalkar Hospital, Savarde

3. To know about documentation regarding MLC management.
4. To find out commonly encountered problems during MLC and their solutions.

Material and Methods

This prospective study was done on all cases registered as medicolegal in the MLC record register of the casualty of B. K. L. Walawalkar Hospital, Savarde. The total duration of this study was one year i.e. from 1st March 2018 to 31st March 2019. The information for the study was collected from the MLC register of B. K. L. Walawalkar Hospital, Savarde and also from the bed head tickets of the patient. A pre – designed proforma was used to note the additional information like demographic profile, Marital status, Residence, history of the case, mode of injury, occupation, date and time of incidence, date and time of admission, date of discharge, duration of hospital stay and condition on discharge.

The collected data was analysed and depicted in form of tables, charts, etc. by using various parameters and compared with other similar studies. Ethical approval letter was taken from the Local Ethical Committed of the institution.

Inclusion criteria

All the cases registered as medicolegal in the MLC record register of the casualty department of B.K.L. Walawalkar Hospital, Savarde were included in this study.

Exclusion criteria

Cases which are not medicolegal cases and cases in which history is incomplete were excluded from this study.

Observations and Results

Table 1: Age wise distribution of medicolegal cases

Age group (in years)	Frequency	Percentage
0 - 10	58	8.51 %
11 - 20	105	15.41 %
21 - 30	178	26.13 %
31-40	128	18.79 %
41-50	86	12.62 %
51 - 60	61	8.95 %
61 - 70	43	6.31 %
71 - 80	17	2.49 %
81 - 90	03	0.44 %
91 - 100	00	0.00%
Unknown	03	0.44%
Total	681	100 %

Table 1 shows that victims of age group 21-30 years form the majority of cases – 178 (26.13 %), followed by 31-40 years – 128 cases (18.79 %) and 11-20 years and 41-50 years comprising of 105 cases (15.41 %) and 86 cases (12.62 %) respectively.

Table 2: Sex wise Distribution of cases

Sex	Frequency	Percentage
Male	504	74%
Female	177	26%
Total	681	100 %

From the Table no. 2 it is evident that Males (74 %) are more commonly involved as compared to Females(26%).

Table 3: Distribution of cases according to Type of medicolegal case

History of the case	Frequency	Percentage
RTA	331	48.6%
Fall	120	17.62%
Poisoning	55	8.07%
Firearm	01	0.14%
Injury while working	31	4.55%
Brought dead	10	1.46%
Assault	34	4.99%
Snake bite	36	5.28%
Fall of object on body	17	2.49%
Railway Injury	08	1.17%
Electrical Shock	06	0.88%
Suicidal cut	03	0.44 %
Burn	05	0.73%
Bull Horn Injury	04	0.58%
Convulsion (suspicious)	08	1.17%
Human bite	01	0.14%
Hanging	02	0.29%
Drowning	02	0.29%
Suspicious death	07	1.03%
Total	681	100%

Table 3 shows the distribution of cases according to the type of Medicolegal case. In the Present study Road traffic accidents forms the major part of the cases i.e 331 cases (48.6 %), followed by Fall – 120 cases (17.62%) and Poisoning – 55 cases (8.07 %). Assault constitutes 34 cases (4.99 %), Snake bite – 36 cases (5.28 %) and Injury while working – 31 cases (4.55 %). Others – 74 cases (10.86 %) includes cases of Firearm, Brought dead, Fall of object on body, Railway Injuries, Electrical Shock, Suicidal Cut, Burn, Bull horn injury, Hanging, Drowning, Suspicious death, etc.

Table 4: Distribution of cases according to Locality

Locality	Frequency	Percentage
Rural	613	90 %
Urban	68	10 %

From the table no 4, it is clear that most of the medicolegal cases were from rural region i.e. 613 cases (90%) as compared to urban population i.e. 68 cases(10 %)

Table 5: Distribution of cases according to mode of occurrence

Locality	Frequency	Percentage
Accidental	592	87%
Suicidal	48	7%
Homicidal	41	6%
Total	681	100%

From the table no 5 it is shown in most of the cases the mode of occurrence was accidental i.e. 592 cases (87%) followed by suicidal and homicidal mode of occurrence.

Table 6: Season wise distribution of cases

Season	No of cases	Percentage
Winter	197	28.92%
Summer	283	41.55%
Rainy season	201	29.51%
Total	681	100 %

From the table no 6 it is seen that most of the medicolegal cases occurs during the Summer season i.e. 283 cases(41.55%) followed by rainy season and Winter season.

Table 7: Distribution of cases according to Time of occurrence

Time of Occurrence	No of cases	Percentage
12am -06 am	92	13.50%
06 am -12pm	147	21.59%
12pm-06 pm	255	37.44%
06pm-12 am	187	27.45%
Total	681	100%

From the Table no 7 it is clear that majority of this medicolegal cases took place in the afternoon and evening time between 12. 00 pm – 6.00 pm (37.44%) whereas

minimum number of medicolegal cases occurred in between 12. 00 am – 6.00 am (13.50%)

Table 8: Distribution of cases according to duration of hospital stay

Hospital Stay	No. of cases	Percentage
1-7 days	619	90.90%
8-15 days	53	7.78%
16-30 days	6	0.88%
More than 30 days	3	0.44%
Total	681	100%

From the Table 8, most of the patients (90.90%) were discharged within a week, followed by 8-15 days (7.78 %).

Discussion

Medicolegal cases represent the major group of all the emergencies presented to the Casualty department of any hospital. The social, demographic and epidemiological transition due to rapid urbanization, mechanization and industrialization has augmented the frequency of such cases.⁷

In the present study a total of 681 MLCs were reported to Casualty department of a Tertiary Care hospital in Konkan region during the period of 1st March 2018 to 31st March 2019.

The present study revealed that the maximum no. of cases were of RTA – 331 cases (48.6%). This finding is in consistence with the studies conducted by Garg V,⁸ Haridas SV⁹ Saxena A¹⁰ Timsinha S.¹¹ RTA 's were followed by Fall – 120cases (17.62%), Poisoning – 55cases (8.07%), Snake bite – 36 cases (5.28%), Assault – 34(4.99%), Injury while working – 31cases (4.55%) and Others – 74 cases (10.86%). RTAs are increasing at an alarming rate due to increasing number of vehicles, poor road conditions, negligence regarding traffic rules and also the safety policies.

In our study, Male victims – 502(75.36%) outnumbered Female victims – 179(24.64%). This is in consistence with the study conducted by Hussain SN.¹² Males are more vulnerable to accident or injuries contributing to majority of MLCs.

In the present study we observed that age group 21-30 years (26.13 %) was most commonly involved in medicolegal cases, followed by 31-40 years (18.79 %). Similar findings were reported by Garg V,⁸ Malik Y,¹³ Marri MZ¹⁴ Hussain SN^[12], as it is the most working age group in the society and is most active phase of life, physically and mentally.

It was observed that the Rural victims constituted (90.01%) and the Urban victims were 8.51%. These findings are consistent with the study conducted by Garg V.⁸ It can be explained by the fact that our hospital/medical college is located in the village and hence the patients from rural areas are more than the person residing in the urban areas.

Majority of this medicolegal cases took place in the afternoon and evening time between 12. 00 pm – 6.00 pm (37.44%) whereas minimum number of medicolegal cases occurred in between 12. 00 am – 6.00 am (13.50%). Similar

findings were seen in the study conducted by Shyam Sundar Mina.¹⁵ Maximum incidences of MLCs took place in between 12. 00 pm – 6.00 pm, because people are involved maximally into their work at this time, leading to large number of MLCs during this time. Minimum number of MLCs are seen in between 12:00am 6:00am because people are fresh and stress free during this time of day hence least incidents takes place during the morning hours.

Season wise distribution of cases revealed that majority i.e.(41.55%) presented during Summer season. This finding is in contrast with the findings of Timsinha¹¹ and Qudisia.¹⁷ Summer months are more active period of the year, during this period people deals with numerous working activities making people more prone to injuries. This factors influences the increasing number of MLCs during summer.

In our study, it was observed that majority of victims (31.57%) were reported to Casualty within an hour of incident. Our findings are consistent with the study conducted by Yadav A¹⁷ and Sidappa SC,¹⁸ followed by 26.72% of cases were reported between 2-4 hrs. This finding of our study was in contrast with the other studies.

Most of the patients (90.89%) were discharged within a week, followed by 8-15 days (7.48 %). Maximum number of cases (79.58 %) were discharged in a Clinically satisfactory condition, (15.27 %) took Discharged against Medical Advice (DAMA), (3.52%) were Transferred to higher centre and (1.46 %) Died out of the injuries sustained and their complications. This is in consistence with the of Garg V⁸ and Abhishek Yadav.¹⁹ This shows the awareness and health consciousness among the society of this region.

Conclusion

This study shows the burden of medicolegal cases in a Tertiary Care hospital, the need of proper documentation and treatment in case of MLCs. The basic preventive measures to overcome the burden of MLCs includes education, uniform enforcement of law and order, pre-hospital care, safety standards training, etc. are important. This study helped to know the trend of occurrence of cases in the area.

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None.

Conflict of interest

None.

References

1. Dogra TD, Rudra A. Lyon's Medical Jurisprudence & Toxicology. 11th Ed. Delhi Law House. 2007: 36
2. Justice YV Chandrachud and VR Manohar. The Indian Penal Code. 31st Enlarged Ed. Wadhwa and Company Nagpur. 2006:228.
3. Aggarwal A. Textbook of Forensic Medicine and Toxicology. 1st ed. Himachal Pradesh: Avichal Publishing Company; 2014
4. Malik Y, Chawla R, Sharma G, Malik P, Singh R, Tripathi A et al. Profile of Medico-legal Cases in Casualty of a Rural Medical College of Haryana. *J Indian Acad Forensic Med* 2013;35(4):367-8.

5. Singh Y.N, Bairagi KK and Das KC. An Epidemiological Study of Road Traffic Accident Victims In Medicolegal Autopsies. *JIAFM* 2005;27(3):166-9.
6. Singh D. Spectrum of Unnatural Fatalities in The Chandigarh Zone of North-West India – A 25 Year Autopsy Study from A Tertiary Care Hospital. *J Clin Forensic Med* 2003;10(3):145-52.
7. Tajammul N, Chaudhry TH, Hanif S, Bhatti MA. Profile of medico legal cases at Jinnah Hospital Lahore. *Ann King Edward Med Uni* 2005;11(3):332-5. Doi: 10.21649/akemu.v11i3.1038
8. Garg V, Verma SK. Profile of medico legal cases at Adesh institute of medical Sciences and research Bhatinda Punjab. *J Indian Acad Forensic Med* 2010;32(2):150-2.
9. Haridas SV, Pawale DA. A Retrospective Study of Pattern of Clinical Medico-Legal Cases Registered at Tertiary Health Care Centre in Kolhapur District. *J Forensic Med, Sci Law* 2014;23(2).
10. Saxena A, Kumar V, Chaudhary SR, Singh J, Awasthi S. Pattern of Medico-legal Cases in the Casualty Department of A Teaching Hospital, Bareilly, Uttar-Pradesh. *J Indian Acad Forensic Med* 2015;37(4):338-40.
11. Timsinha S, Manjarikar S, Baral MP, Ranjitkar M. Profile of Pattern of Medico-Legal Cases in the Casualty of a Teaching Hospital of Western Region of Nepal. *J Indian Acad Forensic Med* 2015;37(1):46-9.
12. Hussaini SN, Kulkarni CS, Batra AK. Profile of Medico-Legal Cases Coming to Casualty of Government Medical College, Akola. *J Forensic Med, Sci Law* 2013;22(2).
13. Malik Y, Chawla R, Sharma G, Malik P, Singh R, Tripathi A et al.. Profile of Medico-legal Cases in Casualty of a Rural Medical College of Haryana. *J Indian Acad Forensic Med* 2013;35(4):367-8.
14. Marri MZ, Baloch U. Frequency and pattern of medico legal cases reported at Sandeman Civil Hospital Quetta Baluchistan-1 year study. *Med Forum Monthly* 2012;23(9):50-4.
15. Shyam Sundar Mina, Srikanta Basu, Virendra Kumar, Deepika Mina. Profile of Medico-legal Cases registered at a tertiary care children's hospital, Delhi. *Int J Contemporary Pediatr* 2017;4(4):1345-1348
16. Qudsia.,et al.Physical Trauma-A leading cause of Medicolegal cases at DHQ Abbottabad. *J Ayub Med Coll Abbottabad* 2010;22(2):156-9
17. Yadav A, Singh NK. Pattern of Medico-legal Cases in rural Area of Faridabad, Haryana. *J Indian Acad Forensic Med* 2013;35(1):60-2.
18. Siddappa SC, Datta A. A Study Pattern of Medico-legal Cases Treated at a Tertiary Care Hospital in Central LKarnataka. *Indian J Forensic Comm Med* 2015;2(4):193-97.
19. Abhisek Yadav. Pattern of Medicolegal cases in rural Haryana. *J Indian Acad Forensic Med* 2013;35(1)60-2.

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