Print ISSN: 0973-1970
Online ISSN: 0974-4487

IndianJournals.com
A product of Diva Enterprises Pvt. Ltd.

Indian Internet Journal of Forensic Medicine and Toxicology

Vol. 20, No. 3&4, July-December 2022

Contents

Page No.

Printed & Published by: Diva Enterprises Pvt. Ltd. on behalf of Indian Congress of Forensic Medicine and Toxicology **Printed at** Spectrum, 208 A/14A, Savitri Nagar, New Delhi 110 017, **Published at** Diva Enterprises Pvt. Ltd., B-9, A-Block, L.S.C., Naraina Vihar, New Delhi 110028, India, **Editor-in-Chief** Prof. Anil Garg

Indian Internet Journal of Forensic Medicine & Toxicology
Vol. 20, No. 3&4, July-December 2022, 84-90
DOI : 10.5958/0974-4487.2022.00015.3

Original Article

Role of Autopsy in Allegations of Medical Negligence with Analysis of the Current Trends

Monisha Pradhan[1]*, Amandeep Kaur[2] and Sreenivas M[3]

[1]Professor, Forensic Medicine, VMMC & SJH, New Delhi, India
[2]Professor, Forensic Medicine, MAMC, New Delhi, India
[3]Director Professor, Forensic Medicine, MAMC, New Delhi, India
*Corresponding author email id: monishapr@gmail.com

Received: 01-11-2022; Accepted: 06-12-2022

ABSTRACT

The present study is a retrospective analysis of 87 cases of death resulting from alleged medical negligence. The cases constituted 1.5% of the total autopsies in a 5-year period. Data were analyzed with respect to age, sex, clinical history, place and duration of treatment, specialty involved, postmortem findings, and cause of death after autopsy and so on. The most common age group was 21–30 years (22.9%) followed by 13–20 years and infant age group (13.9% each). Number of cases was almost equal in both the sexes and most cases were treated at private hospitals. Treatment errors or substandard treatment were the most common allegations. In all, 31 cases had no history of any major preexisting disease, whereas 15 cases had a clinical history of a major preexisting disease. In all, 15 cases were postsurgical deaths, 12 cases were of maternal deaths and 10 cases were of stillbirths. Obstetric surgery and abdominal surgery (33.3% each) were the leading causes of postsurgical allegation of medical negligence followed by cardiac surgery (28.6%) and orthopedic surgery (4.8%). The trends in medical negligence in India along with the role and significance of autopsy in the outcome of such cases have been discussed here.

Keywords: Medical negligence, Litigation, Autopsy, Cause of death

INTRODUCTION

Medical negligence is a growing problem worldwide and in India. Deaths due to medical negligence rank as one of the highest in the United States. It is reported that 5.2 million medical errors are committed in India every year [1]. As a consequence of increase in public awareness in recent times especially after the enactment of the Consumer Protection Act in 1993 wherein healthcare was added in the list of services, there has been tremendous increase in medical negligence suits in India. A total of 3,139 cases of medical negligence were filed in the National Consumer Disputes Redressal Commission (NCDRC) between the years 2000 and 2022. The total number of cases filed in the year 2021 at the State Consumer Disputes Redressal Commission was 268 [2]. Hence, in the modern world, doctors not only act as saviors of life but are also acting like soldiers defending their own careers and reputation against such cases.

Medical negligence is defined as a want of reasonable degree of care and skill or willful negligence, on the part of a medical practitioner in the treatment of a patient with whom a relationship of professional attendant is established, so as to lead to bodily injury or to the loss of life. It is not a term defined or referred to anywhere in any of the enacted Indian laws. Medical errors can occur at various stages of treatment and diagnosis such as misdiagnosis or wrong diagnosis, wrong prescription or substandard treatment, surgical error and inadequate documentation of medical records. Criminal negligence is punishable under Section 304A of Indian Penal Code (IPC; which deals with the death of a person by any rash or negligent act and leads to imprisonment up to 2 years) and it is used to deal with both cases of accidents caused due to rash and negligent motor vehicle driving and also medical negligence leading to the death of a patient. Section 337 IPC (causing hurt) and 338 IPC (causing grievous hurt) are also used in relation to medical negligence cases. Civil negligence is usually given monetary compensation and is dealt by civil court or consumer forums. Medical negligence can also be lead to disciplinary action and temporary or permanent erasure from the medical register [3].

In India, deaths due to alleged medical negligence undergo a medico-legal autopsy through a medical board in some jurisdictions. Forensic pathologists, hence, have a huge role to play in the outcome of adjudication in such cases. The autopsy has long been regarded as an important tool for confirming the clinical cause of death which can also help in clarifying medical malpractice claims [4,5]. The great value of autopsies for verifying medical malpractice has been highlighted by a recent study from the United Kingdom [6,7].

The surge in the number deaths suspected or alleged to have been the result of medical negligence requiring medico-legal autopsy to be conducted in our institution led us to contemplate the possible reasons thereof. This article aims to capture the recent trends in medical negligence cases and attempts to delineate the contribution of autopsy to the outcome of litigation in such cases.

MATERIALS AND METHODS

This is a retrospective study of autopsy cases conducted in the Department of Forensic Medicine, Maulana Azad Medical College, New Delhi, India, during the period of January 2014 to December 2018. All cases with allegation of medical negligence, where medical board was constituted for conduction of medico-legal autopsy, were included in the study. Data were retrieved from postmortem reports, hospital records and inquest papers and were analyzed using SPSS version 21.

RESULTS

Total 5,918 cases were autopsied in the autopsy centre during the 5-year period (January 2014 to December 2018). Of these, 87 cases were of alleged medical negligence which constituted 1.5% of the total cases autopsied at the centre. An upward trend was seen in reporting of such deaths over the consecutive years (Table 1).

In all, 45 (51.7%) were males and 42 (48.3%) were females, showing almost equal distribution (Table 2). The

Table 1: Year-wise distribution of deaths due to alleged medical negligence autopsied in Central Delhi

Year	Medical negligence cases
2014	13
2015	10
2016	20
2017	17
2018	27
Total	87

Table 2: Gender-wise distribution of cases

Gender	No. of cases	Percentage
Male	45	51.7
Female	42	48.3

most common age group was 21–30 years (22.9%) followed by 13–20 years and infant age group (13.9% each; Table 3).

Of the 87 cases, majority of the cases, that is, 63 cases (72.4%) were reported from private hospitals and 27 cases (27.6%) were reported from Government Institutions/Hospitals (Table 4). Of the reported cases of alleged medical negligence, 46 cases were from Internal Medicine and Pediatrics, 15 cases (17.2%) were postsurgical deaths which did not include obstetric surgery, 12 cases were of maternal deaths related to pregnancy and delivery (13.8) and 10 cases were of stillbirths (11.5%); 4 cases were other cases which were post-traumatic cases. Out of the 46 cases reported to medical specialty, 31 cases (35.6%) had no history of any major preexisting disease and could be categorized as sudden deaths. In all, 15 (17.2%) out of the 46 cases had a clinical history of a major preexisting disease (Table 5).

Out of the 31 cases where there were no history of major preexisting disease or sudden deaths, 16 cases (51.6%) had a history of mild illness like fever with gastrointestinal (GI) and respiratory symptoms for a few days. 11 cases (35.5%) had a history of sudden death following intravenous injection or medication; 4 cases (12.9%) were post-traumatic with conservative management (Table 6). In all, 28 out of the 31 cases had autopsy findings of some pathology or disease which were not known prior to death. Sepsis was one of the most common autopsy finding followed by heart and lung pathology. However, in 26 of these cases only provisional cause of death was given as ancillary

Table 3: Age-wise distribution of cases

Age group	No. of cases	Percentage
New born	5	5.7
Infant	12	13.9
1–12 years	7	8.0
13–20 years	12	13.9
21–30 years	**20**	**22.9**
31–40 years	9	10.3
41–50 years	7	8.0
51–60 years	5	5.7
61–70 years	8	9.1
>71 years	2	2.2

Table 4: Distribution of the type of hospital/institution where the cases were reported

Type of hospital	No. of cases	Percentage
Private	63	72.4
Government	24	27.6

Table 6: Distribution of 31 cases without any major preexisting disease

History	No. of cases	Percentage
Sudden onset of fever with gastrointestinal and respiratory symptoms	16	51.6
Sudden deaths following intravenous injection or medication	11	35.5
Post-traumatic deaths	4	12.9

Table 5: Distribution of cases based on clinical history

Department	Clinical history	No. of cases	Percentage
Internal Medicine and Pediatrics	No history of any pre-existing disease/sudden death	31	35.6
	Major pre-existing disease	15	17.2
Surgery	Post-surgical deaths (other than obstetric surgery)	15	17.2
Obstetrics and Gynecology	Pregnancy-related maternal deaths	12	13.8
	Stillbirths	10	11.5
Emergency	Road traffic accidents	4	4.6

investigations were awaited. In only five cases, confirmed cause of death was given which included coronary artery disease, myocardial infarction in a case of anomalous origin of left coronary artery, sepsis due to empyema and pneumonia, chronic lung and heart disease and brain damage due to blunt trauma to head.

A total of 21 cases (24.1%) consisted of post-surgical deaths. Obstetric surgery and Abdominal surgery (33.3%) were the leading post-surgical scenarios, in which allegations of medical negligence occurred followed by cardiac surgery (28.6%) and orthopedic surgery (4.8%). With respect to obstetric surgeries, LSCS accounted for most cases followed by hysterectomy. With respect to GI surgeries, exploratory laparotomy (5 cases) accounted for the greatest number of cases, followed by renal transplant and cholecystectomy (1 case each). Cardiac surgeries included 3 cases of angioplasty, 2 cases of CABG and 1 case of septal repair (Table 7).

All the cases underwent autopsy. The autopsy findings were studied, and the results were as follows: autopsy confirmed the clinical diagnosis in 43 cases (49.42%); additional findings at autopsy were seen in 28 cases (32%); autopsy could exclude allegations of negligence in only 1 case (1.14%); autopsy could confirm the allegation of negligence in 3 cases (3.4%); and autopsy findings were inconclusive in 12 cases (13.8%) (Table 8).

The number of days of hospital admission was calculated which were as follows: hospital stay of less than 1 day was the most common being 44.82% of the 87 cases; 30 cases had hospital stay less than 1 week; 7 cases had hospital stay less than 1 month; and only 1 case had hospital stay more than 1 month (Table 9).

Table 8: The relationship of autopsy findings to outcome

Outcome	No. of cases	Percentage
Autopsy-confirmed clinical diagnosis	43	49.42
Additional finding at autopsy	28	32
Autopsy finding excluded negligence	1	1.15
Autopsy finding confirmed negligence	3	3.4
Autopsy findings inconclusive	12	13.8

Table 9: Duration of hospital admission in days

No. of days in hospital	No. of cases	Percentage
Less than 1 day	39	44.82
Less than 1 week	30	34.5
Less than 15 days	7	8
Less than 1 month	4	4.6
More than 1 month	1	1.15

Table 7: Distribution of the specialty along with the specific surgery undergone

Specialty	No. of cases	Percentage	Specific surgery undergone
Obstetrics and gynecology	7	33.3	LSCS (n=5)
			Hysterectomy (n=2)
Abdominal surgery	7	33.3	Exploratory laparotomy (n=5)
			Kidney transplant (n=1)
			Lap cholecystectomy (n=1)
Cardio-thoracic surgery	6	28.6	Angioplasty/angiography (n=3)
			CABG (n=2)
			Septal repair (n=1)
Orthopedic surgery	1	4.8	Fracture fixation (n=1)
Total number of cases	21		

DISCUSSION

Medical negligence litigations have shown an increasing trend worldwide. United States is leading with the maximum number of litigations averaging to about 85,000 cases filed each year [8]. Most of the countries have also shown an increasing number of litigations like 36.7% in Wuhan, China [9], 20% in Germany [10]. Similar increase in medical negligence cases was seen in our study where the rate of such complaints increased with each passing year. However, even with the increasing trend, the cases of alleged medical negligence constituted only about 1.5% of the total number of autopsies. This is much less compared with the other countries but is similar to another study from north India[11].

Our study showed almost equal distribution of cases in both the sexes for such allegations, which is different from another study from India which shows more cases in the female population.[11] This could be because the hospital from which the data were generated caters largely to women. In our study, maximum number of cases was between 21 and 30 years followed by children and infants. This is like the study from north India previously alluded to but different from a study from China, which showed involvement of large elderly population. This difference could be due to the difference in population demographics. It may be since infant mortality rate is higher in India compared with China and western countries. In addition, younger lives especially children are more valued, and loss of such young lives is not easily acceptable to parents resulting in higher incidence of such allegations.

Most cases reported in our study were from private hospitals amounting to 72.4% of cases and only 27.6% were from government hospitals. This is similar to the alluded study from India, NCDRC data and the explanation for such a propensity for private or corporate hospitals could be many. One being the line of thinking that since the service has been paid for as charged by the private hospitals, higher expectations for the standard of care have to be met in every case.

The perception in the public eye that the private hospitals are run with commercial considerations as the primary moving force might play a significant role in the trend of increasing of litigations. Additional factor could be the changed public perception of health-care providers due to frustrations in obtaining care, critical media coverage and recent studies on negligence incidence – causing more people to believe they have claims worth pursuing.

The government hospitals cater a population which is less aware and under privileged and charge negligible to nil fees for their services; this could be the reason for fewer litigations against government doctors. The report of 27.6% of government hospitals under litigations in our study, though less in comparison to private hospital, is quite high as compared with the 3% reported in another study [11]. An increasing trend in the number of litigations is a cause for concern and warrants attention. Improving the standards of health care, upheaval of infrastructure, strengthening of health-care staff may be some of the measures needed to improve the quality of healthcare and hopefully decrease the incidence of such litigations.

In our study, most cases (from Internal Medicine and Pediatrics) were due to alleged improper treatment followed by surgical error and alleged adverse drug reaction. This statistic is almost identical to a study by Chaudhary *et al*. [11] whereas it is contrary to statistics from United States and study based on NCDRC decisions in India where medical negligence was more common in surgical stream rather than the medical stream [8,12].

Our present study was based on allegations made by relatives and the outcome or final decision on the medical negligence could not be assessed due to the lack of information available. A study from India which was

based on the NCDRC decisions on 100 cases of reported medical negligence cases showed that in 41 cases medical negligence was proved. Out of 41 cases, 80% of the cases were related to surgical procedures followed by medical treatment (20%). Medical negligence cases was most commonly proved in Obstetrics and gynecology, that is, 12 (29.2%) cases followed by Orthopedics, that is, 9 cases (21.9%) and then General Surgery, 8 cases (19.5%). Ophthalmology and Anesthesiology accounted for 5 cases each (12.1%). This study shows that negligence related to surgical procedures are more likely to go against doctors [12]. Our study was unique from the other studies as 2 cases included allegations of illegal organ retrieval against the surgeons. Such cases have not been reported in any other study. The reason for such allegations where the doctors are accused of illegal organ removal could be due to increased public awareness of the highly publicized cases of illegal organ retrieval in the past. Such incidences have unfortunately negatively impacted the erstwhile image of the medical practitioners. However, in both these cases, autopsy findings refuted the allegations.

Maternal deaths occurring during delivery and pregnancy also ranked high in relation to allegations of negligence. Obstetrics and Gynecology is one of the leading specialties regarding rates of medical negligence suits in most of the countries. This is also one specialty where the outcome against the doctors is unfavorable [12]. Among the different surgeries, LSCS, which is considered a highly safe surgery, was the most common cause for litigation followed by exploratory laparotomy. Angioplasty, which is also considered a safe procedure, was also not free from allegations. Litigations against surgical errors, inherent or due to actual negligence, is going to be difficult to avoid, given the high risk associated with any type of surgery. The only way to avoid litigations in surgeries is by giving proper information about the inherent risks and complications. Taking blanket consent and taking consent only for the sake of documentation should be avoided.

A total of 31 cases of allegations against medical specialty did not have any prior history of major disease or pathology. Sudden deaths are invariably shrouded in mystery and many a time lead to pathological autopsies. Most of these cases in our study showed only mild symptoms. In all, 11 cases were of sudden death following injection or consumption of some drug. However, in such cases, doctors are the easy targets to be blamed for the deaths. The autopsy findings in these cases revealed natural pathology which were not diagnosed prior to death, sepsis being the most common finding. This highlights the importance of a detailed and meticulous autopsy. In 15 cases there was clinical history of major preexisting diseases, which was confirmed by autopsy; even such cases were not free from allegations. Therefore, one could conclude that in today's age there is a rising trend of leveling allegations of negligence against the treating doctors.

This study also highlights the importance of autopsy examination in such cases. In our study, autopsy could add additional information beyond what was available in the clinical records in 32% of cases which is very significant. This is similar to other studies where major discrepancies between clinical diagnosis and postmortem findings were encountered in 20.3% (n=81/346) of autopsies [14]. Autopsy could completely rule out negligence in only one case and confirm positively the allegations in only three cases. In almost half of the cases, autopsy could confirm the clinical diagnosis and no gross error were revealed at autopsy. Such findings are similar to some other studies [13,14].

CONCLUSION

It is well known that the litigations against medical negligence are growing all over the world. India is also not far behind, which is alarming for the medical fraternity and warrants introspection followed by improvement in the standard of health-care infrastructure and delivery. The authors have experienced that lack of communication coupled with

indifferent and paternalistic attitude shown by the doctors was the root cause of many such cases of allegations, perhaps pointing to a feeling of dissatisfaction among the relatives [15]. Clear and comprehensive communication along with an empathetic attitude while dealing with patients will go a long way in preventing mistrust and feeling of dismay among the patients. The role of autopsy in the outcome of such litigations has been shown to be extremely significant. Thus, it will be safe to state that a meticulous autopsy will aid in the adjudication of the cases most of the times, if not always.

Conflict of interest: None declared.

Source of funding: Nil.

Ethical approval: Taken.

REFERENCES

[1] Sangwan S. Medical Negligence. Lawyers script, October 20, 2021. [Internet] [Accessed on 12 March 2022]. Available from: https://lawyerscript.com/tag/medical-negligence.

[2] India Medical Negligence Report, NCDRC disposed cases. QME India. [Internet] [Accessed on: 12 March 2022]. Available from: http://www.qmeindia.in/IndMedNegClock

[3] Modi JP, Kannan K, Mathiharan K. Modi A Textbook of Medical Jurisprudence & Toxicology, 24th edn. Lexis Nexis: Butterworths Wadhwa Nagpur 2012; 119-165.

[4] Perkins GD, McAuley DF, Davies S, Gao F. Discrepancies between clinical and postmortem diagnoses in critically ill patients: an observational study. Critical Care 2003; 7(6):1-4.

[5] Roulson JA, Benbow EW, Hasleton PS. Discrepancies between clinical and autopsy diagnosis and the value of post mortem histology; a meta analysis and review. Histopathology 2005; 47(6):551-59.

[6] Shojania KG, Burton EC, McDonald KM, Goldman L. The autopsy as an outcome and performance measure. Evidence report/technology assessment (summary) 2002; (58):1-5.

[7] Shojania KG, Burton EC, McDonald KM, Goldman L. Changes in rates of autopsy-detected diagnostic errors over time: a systematic review. JAMA 2003; 289(21):2849-56.

[8] Makary MA, Daniel M. Medical error–the third leading cause of death in the US. BMJ 2016; 353: i2139.

[9] He F, Li L, Bynum J, Meng X, Yan P, Li L, *et al.* Medical malpractice in Wuhan, China: a 10-year autopsy-based single-center study. Medicine 2015; 94(45):e2026.

[10] Madea B, Preub J. Medical malpractice as reflected by the forensic evaluation of 4450 autopsies. Forensic Science International 2009; 190(1-3):58-66.

[11] Chaudhary BL, Singh RK, Singh S, Shukla PK. Recent trends of medical negligence–An autopsy-based study at Lady Hardinge medical college, New Delhi. IJFMT 2020; 5(2):35-38.

[12] Rayamane AP, Nanandkar SD, Kundargi PA. Profile of medical negligence cases in India. JIAFM 2016; 38(2):144-48.

[13] Edulla N K, Kethvath R, Alugonda Y, Kothapalli J, Goud A K. Determination of role and issues of autopsy in medical negligence. IJMSPH 2013; 5(9):26-36.

[14] Bove KE, Iery C. The role of the autopsy in medical malpractice cases, I: a review of 99 appeals court decisions. Archives of Pathology & Laboratory Medicine 2002; 126(9):1023-31.

[15] Lee AV, Moriarty JP, Borgstrom C, Horwitz LI. What can we learn from patient dissatisfaction? An analysis of dissatisfying events at an academic medical center. Journal of Hospital Medicine 2010; 5(9):514-20.

How to cite this article: Pradhan M, Kaur A, Sreenivas M. Role of Autopsy in Allegations of Medical Negligence with Analysis of the Current Trends. Ind Internet J Forensic Med Toxicol 2022; 20(3&4): 84-90.