

## Original Research

### Analysing The Causes Of Complaints From Anaesthesiologists Referred To The Forensic Medicine Of Fars Province

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## Abstract

**Background:** Medical malpractice is a major issue in the healthcare system and can result in patient harm and higher medical expenses. Unfortunately, incidents of medical malpractice have been on the rise. To address this issue, a study was conducted to identify the reasons behind complaints made by anaesthesiologists referred to forensic medicine in Fars province from 2006 to 2017.

**Method:** This study was a retrospective cross-sectional descriptive study. The cases related to the medical malpractice of anaesthesiologists in the General Department of Forensic Medicine of Fars Province during the years 2006-2017 were reviewed. Demographic information including (age, gender, education level, year of filing complaint, type of commission, initial investigation in the medical system, percentage of malpractice, representation in the case, autopsy result, type of anaesthesia used, complaint, time of anaesthesia malpractice, surgical fields of the case Complaints, malpractice cases, underlying disease of the patient, physical condition of the plaintiff after the malpractice incident, motivation for the complaint, causes of anaesthesia leading to death, cases leading to malpractice, malpractice cases of the anaesthesiologist).

**Results:** Out of all the cases, 46 of them (54.1%) had female plaintiffs, while 25 cases (29.8%) involved plaintiffs who were under 20 years old. Additionally, 33 of the cases (39.3%) involved plaintiffs without a diploma, and the highest number of complaints were from the year 2015, with 24 complaints (27.6%). The majority of complainants in these cases, 26 people (30.6%), were related to anaesthesiologists, and the highest number of complaints were related to obstetrics and gynaecology, with 16 cases (21.1%). When it comes to anaesthesiologist malpractice, 6 cases (19.4%) were due to carelessness, 23 cases (74.2%) were due to negligence, and 2 cases (6.5%) were due to a lack of skills of the anaesthesiologist.

**Conclusion:** Based on the results of this study, it is evident that anaesthesia is a critically important and risky field within medicine. By analysing the complaints highlighted in this study, it has been determined that anaesthesia personnel should receive training in teaching hospitals. This training should cover the administration of airways, roads, and how to work with young patients. By doing so, they can apply their skills with greater accuracy and precision, leading to higher levels of satisfaction and fewer complaints.

**Keywords:** Complaints, Anaesthesiologists, Forensic Medicine.

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## Introduction

As medical technology advances and our understanding of the causes of diseases deepens, doctors have become more specialized in their fields. However, the growing population and worsening socio-economic conditions have strained the relationship between doctors and patients. At the same time, patients are becoming more aware of their rights and are increasingly likely to file complaints against doctors (1,2). Reports from various countries show that complaints against medical doctors have been increasing despite advancements in science and technology in the field of healthcare. Studies have revealed that medical malpractice can harm one in every 25 hospitalized patients, resulting in the deaths of 48,000 to 98,000 patients annually due to errors (3). Regrettably, our country has been negatively impacted by the issue of medical malpractice. Patients who have experienced such incidents are filing complaints and lawsuits, demanding compensation. This has created a crisis for doctors and the medical community, with potential long-term effects on the quality of services provided by these experts. The harm caused by this process may become evident in the near future (4). Although there are media advertisements and numerous legal cases and medical complaints, most people have accepted that medical care is not infallible (5). In fact, a study showed that 75% of respondents were very concerned about the possibility of medical errors during hospitalization (6). A study conducted on hospitalized patients showed that 51% of them did not feel very safe when it comes to medical services. Additionally, 39% of these patients expressed concern about at least one case of medical error (7). Neglecting patients' concerns, failing to follow medical orders, and reluctance to visit again are all factors that contribute to an increase in medical complaints (8,9). As with other medical professionals, anaesthesiologists may face complaints and legal action while carrying out their work (10, 11). Despite advances in anesthesia safety, mistakes can still occur, and

their effects can be more severe than those made by other specialists. Studies have therefore been conducted to investigate the issue of medical errors in anesthesia (10, 12). It's important to note that a significant number of deaths that happen after surgery or anesthesia are caused by the underlying disease that the surgery was intended to treat (13). It's also important to acknowledge that risks and responsibilities are always present in standard anesthesia procedures (10). However, negligence can occur in this field due to factors such as a lack of advanced equipment and experienced personnel in the operating room (14). The number of complaints in the medical sector is increasing day by day. This trend may lead to a recession in the sector in the near future (15). Anaesthesiologists are not exempt from making medical errors, which can be more severe than those made by other specialists. One of the most significant occupational tensions that doctors face is when patients complain. When doctors face legal complaints from their patients, they may feel vulnerable and their social dignity may be at risk. This can cause anxiety, tension, depression, isolation and even illness. The number of complaints from medical staff is increasing, particularly in fields related to surgeries or high-risk diseases. Patients are becoming more aware of their medical rights. This study aims to investigate the causes of complaints made against anaesthesiologists in the Forensic Medicine of Fars province from 2006 to 2017.

## Method

The research conducted was a retrospective cross-sectional descriptive study. Prior to commencing the study, permission was acquired from the Council of Medical Ethics and Research Vice-Chancellor of Jahrom University of Medical Sciences (IR.JUMS.REC.1396.091), as well as the Forensic Medicine Organization of Fars Province. The analysis reviewed cases pertaining to medical malpractice by anaesthesiologists in the General Department of Forensic Medicine of Fars Province during the period of 2006-2017. To be included in the study, all complaint files from

anaesthesiologists that have been filed in the medical malpractice commission unit of Fars province will be considered. Incomplete files and those that have been examined multiple times over several years will be excluded. Demographic information such as age, sex, level of education, year of complaint, type of commission, initial investigation in the medical system, percentage of malpractice, representation in the case, autopsy result, type of anesthesia used, complaint, time of anesthesia malpractice, surgical fields of the case complaints, cases of malpractice, underlying illness of the patient, physical condition of the plaintiff after the malpractice incident, motivation of the complaint, causes of anesthesia leading to death, cases leading to malpractice, and malpractice cases of the anesthesiologist will be collected for analysis. Because the complaints against the medical staff and the patients' personal information are private, the information was gathered secretly and following the rules of privacy. We used the SPSS software version 21 to analyse the data. We used descriptive statistics and set a significance level of  $P < 0.05$ .

## Results

Out of the 87 cases that were investigated, the gender of the plaintiffs in two cases could not be determined. Among the remaining cases, 46 cases (54.1%) had female plaintiffs and 39 cases (45.9%) had male plaintiffs. The age of the plaintiffs in three cases was also unclear. Among the remaining cases, 25 cases (29.8%) involved plaintiffs under the age of 20, 10 cases (11.9%) involved plaintiffs between the ages of 20 and 30, 21 cases (25%) involved plaintiffs between the ages of 30 and 40, and 10 cases (11.9%) involved plaintiffs between the ages of 50 and 60. Additionally, 18 cases (21.4%) involved plaintiffs over the age of 60 (Table 1). The educational level of the plaintiffs in three cases was indeterminate. Of the remaining cases, 29 (34.5%) had plaintiffs who were illiterate, 33 (39.3%) had plaintiffs with less than a high school diploma, 7 (8.3%) had plaintiffs with diplomas, and 15 (17.9%) had plaintiffs with university degrees. The year 1994

saw the highest number of complaints, with 24 (27.6%) cases reported. The data presented in the table indicates that 2015 was the peak year for complaints in this field, with a subsequent decline in the number of complaints. The type of commission related to a case was not specified. Among other cases, 49 (57%) cases have been investigated in the provincial commission for the first time, 24 cases (27.9%) in the provincial commission, 5 cases (5.8%) in the higher commission and 8 cases (9.3%) in the national commission. The current status of the initial investigation for four cases within the Medical Affairs Organization remains uncertain. Of the total cases examined, 29 cases (34.9 percent) underwent initial examination within the medical system, while 54 cases (65.1 percent) did not receive initial examination within the medical system. Among the 87 cases that were examined, the clarity of malpractice in 32 cases remained indeterminate. The classification of the remaining cases, based on the proportion of negligence, is delineated in Table No. 2, which provides both numerical and percentage values (Table 2). Among the 87 cases that were investigated, it was found that the legal status of one case was not clear. In regards to the remaining cases, 30 cases (34.9%) had legal representation while 56 cases (65.1%) did not. The results of the autopsy were inconclusive for 16 cases. Among the other cases, 38 cases (53.5%) had autopsy results while 33 cases (46.5%) did not. Further, within the 87 investigated cases, one case had an unknown type of hospital. Among the other cases, 40 cases (46.5%) were associated with teaching hospitals, 18 cases (20.9%) were associated with public hospitals, and 28 cases (32.6%) were associated with private hospitals. The type of anesthesia used in 4 cases was unclear. However, among the remaining cases, general anesthesia was administered in 72 cases (86.7%) while spinal or epidural anesthesia was administered in 11 cases (13.3%). Out of the 87 cases that were investigated, the job position of two cases remained ambiguous. Among the complainants in

the remaining cases, 26 (30.6%) were anaesthesiologists, 5 (5.9%) were anaesthesiologists, 21 (24.7%) were surgeons, 7 (8.2%) were internists, 18 (21.2%) were anesthesia personnel, and 8 individuals (9.4%) were nurses (Table 3). Among the 87 cases under investigation, the precise moment of anesthesia failure remained undisclosed for 55 cases. In 20 cases (62.5 percent), anesthesia failure occurred during the surgical procedure, thereby constituting the predominant majority of the aforementioned cases (Table 4). The surgical fields that were subject to complaints were not clearly identified in 11 out of the 87 cases that were reviewed. The fields that received complaints include Oto-rhinolaryngology 8 cases, which accounts for 10.5 percent of the total cases, obstetrics and gynecology in 16 cases (the field with the highest number of complaints, accounting for 21.1 percent), the heart in 3 cases (3.9 percent), neurosurgery in 12 cases (15.8 percent), general surgery in 9 cases (11.8 percent), urology in 4 cases (5.3 percent), orthopaedics in 15 cases (19.7 percent), paediatrics in 3 cases (3.9 percent), and ophthalmology in 6 cases (7.9 percent). This information is summarized in Table 5.

The disease status of two patients was indeterminate. In the instance of 38 cases (44.7%), the respective patient possessed an underlying ailment, while in the case of 47 cases (55.3%), the respective patient did not possess an underlying ailment. For 3 cases out of 87 investigated cases, the plaintiff's physical condition after the malpractice incident was unclear. In other cases, for 19 people (22.6 percent), the physical condition of the plaintiff after the malpractice incident was reported as organ failure, 64 people (76.2 percent) died, and one person (1.2 percent) was recovering. The motivation of two of the plaintiffs remained ambiguous. In the circumstance that the motivation behind 82 (96.5%) of the plaintiffs' complaints was to obtain monetary compensation, while the motivation of merely 3 (3.5%) was to enforce disciplinary measures against the doctor. Out of the total of 64

plaintiffs, the cause of death for 27 individuals remains unidentified. Among the known causes, 15 individuals (40.5%) experienced respiratory issues, 6 individuals (16.2%) failed to monitor the patient's cardiovascular and hemodynamic condition, 1 individual (2.7%) suffered from subcutaneous emphysema, and 3 individuals (8.1%) encountered drug allergies or interactions. Additionally, 2 individuals (5.4%) faced obstruction and were unable to establish a suitable airway, while 10 individuals (27%) had an underlying medical condition contributing to their demise. In 56 instances, the circumstances surrounding cases of anesthesiologist malpractice remain ambiguous. These cases encompass scenarios where the fault cannot be determined, as well as instances where the anesthesiologist is not responsible. Conversely, in the remaining cases, 6 instances of anesthesiologist malpractice (19.4%) were attributed to negligence, while 23 cases (74.2%) were a result of carelessness, and 2 cases (6.5%) were attributed to a lack of skill on the part of the anesthesiologist.

### Discussion

Medical malpractice is one of the fundamental problems in the healthcare system, leading to patient injuries and increased healthcare costs. Unfortunately, medical errors are on the rise today (16-17). Several factors contribute to the occurrence of medical malpractice. 6 components of the political economy of health, problems of the health system, position of doctors in the socio-economic structure, poor supervision of doctors, unfavourable quality of medical training and the role of civil physician liability insurance has been mentioned. are elements in the basic structure of medical errors (18). The results of this study show that most of the complainants were between the ages of 30 and 40. This is despite the fact that in Beckmann's article, in 10% of the complaints, the age was under 15(19) and in the study by Bastani et al., most of the complainants were between the ages of 40 and 50 years old and the lowest number of complaints was related to the child age group (under 15 years old) (20). In Keshavarz et al.'s



study, most complainants were between 20 and 35 years old. In the present study, the majority of complainants were 47 women (54.1%), and in Howie's study, 54% of complainants were women (22). In the study by Bastani et al. (20) and Keshavarz et al. (21), most of the complainants were men, which is inconsistent with the results of this study. Furthermore, in this study, most complaints related to the surgical field were related to obstetrics and gynecology. In the study by Qeshlagi et al., which examined 5 years of complaints from the anesthesia staff of the Center for Forensic Medicine and the Isfahan Medical Affairs Organization, most complaints were reported. It has been performed in surgeries related to gynecology and obstetrics (23). In the study by Bastani et al. (20), the largest number of complaints related to general surgery, is not consistent with the results of this study. The present study showed that most of the cases that led to complaints were errors that led to death. In the study of Bastani et al. (20), Keshavarz et al. and in a study that was conducted in Tehran Medical Affairs Organization, most of the complaints resulted in death (24). Teaching hospitals received the most complaints in the current study. Within Bastani et al. 's study (20), the majority of complaints related to teaching hospitals, whereas in Lee's study (25), 73 percent of the complaints were from general hospitals, followed by 23 percent of teaching centers. Public hospitals received more grievances than private ones in Tofighi 's study (26). The outcomes of the studies mentioned above agree with those of the current study. The results of a study by Keshavarz et al. The Isfahan Forensic Medicine Center received referrals for anesthesia malpractice cases from 2009 to 2015, and an evaluation of those cases revealed that private hospitals had the highest rates of malpractice (21). which contradicts the study's findings. In this study, the most cases of malpractice were related to negligence with 74.2%. The results of the present study are consistent with the studies of Benisi et al. (27), Tadayon et al. (28), Zarenezhad et al.

(29), Azimi et al. (30), Mohammadi et al. (31), Shadmehr et al. (32), Doroudchi et al. Keshavarz et al. (21).

### Conclusion:

According to the results of this study, it can be concluded that anesthesia is one of the most dangerous and responsible fields in medical science. Therefore, by reviewing the complaints in this study, it was determined that anesthesia staff needed training at teaching hospitals. During operations, Airway management and also in its relationship with the youth, using its greater skill and precision to bring more satisfaction with fewer complaints in this area. It is also recommended to conduct similar studies in other provinces to further identify weaknesses in the field of anesthesia and improve the quality of patient services.

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**Table & Figure:****Table 1: Status of investigated cases by the age of the plaintiffs**

Characteristic	Age of the plaintiffs	Number	Percentage
Age	<20	25	29.8
	20-30	10	11.9
	30-40	21	25.0
	50-60	10	11.9
	>60	18	21.4
	Unknown	3	

**Table 2: The status of the investigated cases by the percentage of negligence**

Characteristic	Percentage type	Number	Percentage
Negligence percentage	5-10	8	14.5
	10-20	3	5.5
	20-30	11	20.0
	30-40	.	.
	40-50	6	10.9
	50-60	4	7.3
	60-70	10	18.2
	70-80	8	14.5
	80-90	3	5.5
	90-100	2	3.6
	Unknown	32	

**Table 3: The status of the examined cases by the complainant's job position**

Characteristic	Complainants 's job position	Number	Percentage
Complainants	Anesthesiologist	26	30.6
	Anesthesia assistance	5	5.9
	Surgical specialists	21	24.7
	Internal specialists	7	8.2
	Anesthesia personnel	18	21.2
	Nurse	8	9.4

	Head of the hospital	0	0
	Unknown	2	

**Table 4: The status of the investigated cases by the time of occurrence of anesthesia malpractice**

Characteristic	Time of event	Number	Percentage
Time of anesthesia failure	During operation	20	62.5
	End of operation	4	12.5
	Recovery	1	3.1
	ICU	1	3.1
	During patient transfer	1	3.1
	Before operation	5	15.6
	Unknown	55	

**Table 5: The status of the reviewed cases by the surgical fields of the complaint**

Characteristic	Surgical fields	Number	Percentage
Complained surgical fields	Oto-rhino-laryngology	8	10.5
	obstetrics and gynecology	16	21.1
	Heart	3	3.9
	Neurosurgery	12	15.8
	General surgery	9	11.8
	Urology	4	5.3
	Orthopaedics	15	19.7
	Paediatrics	3	3.9
	Ophthalmology	6	7.9
	Unknown	11	

**Table 6: The status of the examined cases by the cases of malpractice of the anesthesiologist**

Characteristic	cases of malpractice	Number	Percentage
Anesthesiologist malpractice cases	Carelessness	6	19.4
	Negligence	23	74.2
	Lack of skill	2	6.5
	Unknown	56	