RESEARCH ARTICLE

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An Evaluation of Cases with a Claim of Medical Malpractice Related to the Cardiology Department Reported by the First Forensic Medicine Expert Committee of the Forensic Medicine Institute between 2012 and 2014

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Abstract

Background and Aim: There are few studies in literature related to medical malpractice in Turkey. There is insufficient information in literature about malpractice in the field of cardiology, not only in Turkey but throughout the world. The aim of this study was to examine claims of medical malpractice related to cardiology and reports on this subject prepared by the First Forensic Medicine Expert Committee of the Forensic Medicine Institute.

Materials and Methods: A retrospective examination was performed on 160 cases with a claim of malpractice related to cardiology branch doctors, with reports by the First Forensic Medicine Expert Committee of the Forensic Medicine Institute between 2012 and 2014.

Results: The examined cases comprised 58.8% males and 41.2% females. Malpractice was determined in 5.6% of the cases. The rate of malpractice claims was high in the Marmara region, in private hospitals, and among specialist doctors. The most common complaint at hospital was chest and arm pain. During the diagnostic process, the most common primary diseases were coronary artery disease (n=75, 76.9%) and heart failure (n=13, 8.1%).

Conclusion: Medical malpractice claims are currently rapidly increasing in Turkey. The complaint process can have severe physical and psychological negative effects for both the patient and the healthcare professional. Therefore, it is important to examine, analyze, and evaluate cases of malpractice to be able to prevent and overcome them.

Keywords: Cardiology, malpractice, forensic medicine, autopsy

INTRODUCTION

The term "malpractice" is derived from the Latin words, "male" and "praxis" and is used for the erroneous or defective actions of a member of any profession. In recent years, the subject of malpractice has been examined from educational, management, ethical, social, and legal perspectives and has been interpreted in different ways. At the 44th General Board Meeting of the World Medical Association in 1992, the definition of malpractice was accepted as "harm to the patient during treatment by the physician not performing standard

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practices, lack of competence, or not treating the patient", and it was emphasized that this must be differentiated from complications seen during medical care and treatment not due to physician error.[1,2]

The term malpractice refers to neglect by members of professions such as doctors, dentists, engineers, and lawyers. Medical malpractice is behavior by a healthcare provider (doctor, dentist, chemist, midwife, nurse, etc.) below the standards of the profession. To be classified as medical malpractice, 4 components must be considered:

1. Is the action legal?

2. Is there a mistake?

3. Has harm been caused?

4. Is there a causal link between the harm and the action?[3]

Prior to the "Regulation on the Procedures and Principles Regarding the Investigation of Healthcare Professionals Due to Medical Procedures and Practices and the Recourse of Compensation Paid by the Administration" number 31867 published in the Official Gazette dated 15.06.2022, applications regarding medical malpractice were made to the relevant Chief Public Prosecutor. After an initial examination of the physician according to the place of work at a private hospital, state hospital, charitable trust hospital, or university hospital, the right to prosecute was decided, and proceedings were initiated. In addition to physicians working in private hospitals, following a preliminary investigation by the hospital, the prosecution of the physician permitted to be investigated could be conducted by the Chief Public Prosecutor. After this point, when expert opinion reports were required, they were requested from the Istanbul Forensic Medicine Institute Directorate and prepared by a panel of 3 experts including at least one professor from the relevant departments of university hospitals. In cases resulting in death, an expert opinion was sought from the First Expert Committee of Istanbul Forensic Medicine Institute.[1,2,4]

The number of medical malpractice cases is increasing in Turkey, as throughout the world. Because the public now has easy access to information, people do not question whether the information obtained is correct or false. They may be misdirected by lawyers, and there are increased amounts of compensation demanded.[4,5]

An expert is a person with specialized knowledge who assists the Public Prosecutor in solving a problem, in circumstances permitted by the court, judge, and law. The expert service in Turkey is provided mainly by expert witnesses or institutions on the subject. In medical malpractice investigations, the experts and expert committees determine whether or not any harm occurring in the patient is due to the medical practice applied or whether the applied practice was deficient or not. These committees make decisions by evaluating statements from the patient and witnesses together with the medical documents, films, and laboratory reports of the patient, and if there was an autopsy, the autopsy findings.[6,7]

In this study, a retrospective examination was made of medical malpractice reports of cases resulting in death related to the cardiology department, which were submitted to the First Forensic Medicine Expert Committee of the Forensic Medicine Institute (FMI First FMEC) between 2012 and 2014.

METHODS

A retrospective examination was conducted on 160 cases with claims of medical malpractice, which were discussed and decided by the FMI First FMEC between 2012 and 2014. The cases were examined in respect of age at the time of the event, gender, date of the event, relationship of the complainant to the patient, reason for the complaint, the healthcare institution at which they presented, the academic title of the doctor against whom the claim was made, complaint on presentation, diagnosis on presentation, whether or not medical malpractice occurred, complications that developed, the effect of the presence of complications on the error rate, autopsy status, the effect of autopsy on the error rate, and the reason for medical malpractice.

Statistical Analysis

Data obtained in the study were analyzed statistically using SPSS vn. 21.0 software (Statistical Package for the Social Sciences). Descriptive statistical methods were used in the analysis of the study data, and results were stated as mean ± standard deviation, median, minimum, and maximum values, or number (n) and percentage (%). In the qualitative data comparisons, relationships between two or more groups of variables were examined using the Pearson's chi-square test, the Yates' continuity correction test, and Fisher's exact test. Findings were presented in tables and graphs. A value of $P < 0.05$ was set as statistically significant.

This study was based on a thesis entitled, "An evaluation of cases with a claim of medical malpractice related to the cardiology department reported by the First Forensic Medicine Expert Committee of the Forensic Medicine Institute between 2012 and 2014".

The records in this study were evaluated according to the laws before the "Presidential Decree on the Organization of Ministries, Related Institutions and Organizations and Other Institutions and Organizations", published in the Official Gazette number 30379, dated 15/07/2018, and the "Regulation on the Procedures and Principles Regarding the Investigation

of Healthcare Professionals Due to Medical Procedures and Practices and the Recourse of the Compensation Paid by the Administration" published in the Official Gazette number 31867, dated 15/06/2022.

This study was conducted in accordance with the principles of the Declaration of Helsinki and was approved by the Institute of Forensic Medicine Scientific Research Committee (approval number: 21589509/1019, date: 15.12.2015).

RESULTS

The 160 cases evaluated comprised 94 (58.8%) males and 66 (41.2%) females. No information was available regarding the age of 7 cases and the mean age of the remaining 153 cases was determined to be 58.45±17.12 years (range, 12-88 years). Of the 153 cases in which age was known, the largest age group was ≥60 years (n=79, 51.6%) (Figure 1). When the relationship between gender and medical malpractice was evaluated, no statistically significant difference was determined ($P > 0.05$).

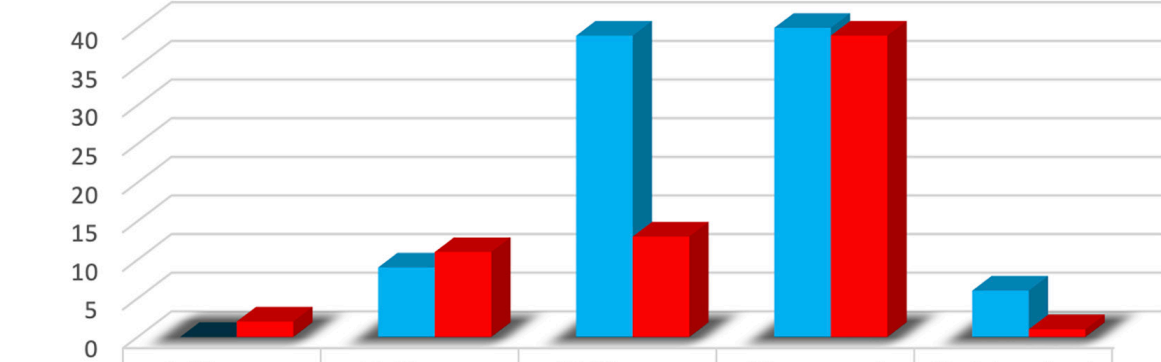
When the cases were examined by year, there were seen to be 46 (28.8%) cases reported in 2012, 57 (35.6%) in 2013, and 57 (35.6%) in 2014. When the dates of the events which were the subject of a court case or investigation were examined, they were seen to have occurred between 2003 and 2014. The events of most cases occurred in 2012, and the number of records increased up to that year. In the 3-year period of 2012-2014 of this study, claims of medical malpractice related to the cardiology department showed an increase of 23.9%. When the relationship was examined between the date when the incident occurred and the presence of medical malpractice, the rate of error in incidents occurring in 2010 and previous years was found to be statistically significantly higher than that of other years ($P = 0.036$) (Table 1).

It was determined that 81.9% of the cases were referred by the Public Prosecutor. Of the case files from the judicial authorities, an opinion was requested only about physician error in 67.5%, physician error and causation in 16.3%, physician error and cause of death in 13.1%, and physician error, causation, and cause of death in 3.1%.

In the cases with a claim of medical malpractice, the complainant was usually the spouse and/or children (n=105, 69%), and no reference to the complainant was found in 8 cases. No data were obtained regarding the reason for the complaint in 18 cases, and of the 134 cases with a reason given, the most common was a claim of treatment error (n=47, 35.1%), followed by a claim of lack of care (n=44, 32.8%) (Figure 2).

When the distribution of primary healthcare institutions where the incident occurred was examined, private hospitals (n=89, 55.6%) were determined to be the institutions with the most claims of medical malpractice. No statistically significant difference was determined in the comparison of medical malpractice claims according to healthcare institution ($P > 0.05$) (Table 2).

In the claims of medical malpractice included in this study, the physicians were specialists in 116 (72.5%) cases, more than one doctor was involved in 27 (16.9%) cases, 8 (5%) were professors, 7 (4.3%) were associate professors, and 2 (1.3%) were residents. In the statistical comparison made between the malpractice status and academic degree of the doctors, the malpractice rate of the specialist physicians was determined to be statistically significantly low ($P = 0.021$), and when the claim was against more than one cardiology physician, the rate of malpractice was found to be statistically significantly high ($P = 0.007$) (Table 2).



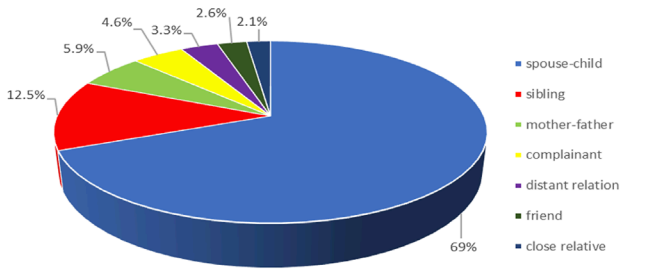
	0-17 years	18-39 years	40-59 years	60 years and over	Undetermined
Male	0	9	39	40	6
Female	2	11	13	39	1

Figure 1: Distribution of the gender and age groups of the cases

Table 1: Relationships between the date of the event and medical malpractice

		Medical malpractice		*P*-value*
		Present	Absent	
Date of the event	2010 and previously	5	33	0.036
	2011	3	33	0.424
	2012	1	44	0.447
	2013	0	30	0.210
	2014	0	10	1.000
Total		9	150	

Fisher's exact test, *$P < 0.05$



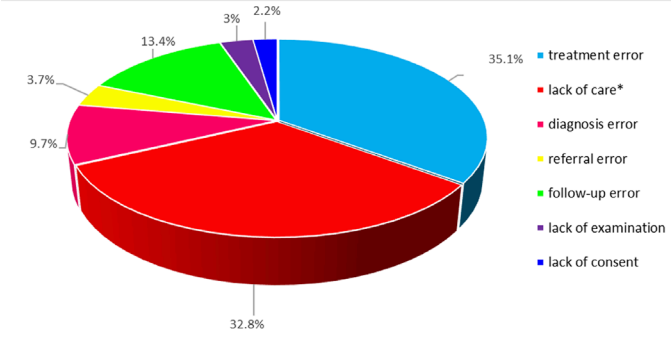


Figure 2: Distribution of the complainants and reasons for the complaint

*The doctor himself was not sufficiently interested, did not give sufficient information, behaved impolitely etc.

The complaints of the patients at the time of first pre-treatment at the healthcare institution were mostly chest and/or arm pain (n=86, 53.8%), followed by shortness of breath (12.5%) (Table 3). When the primary disease diagnosis was examined in cases that resulted in death for which an expert opinion was requested in respect of a medical malpractice claim, the most common diagnosis was coronary artery disease (CAD) (n=75, 76.9%), followed by heart failure (n=12, 7.5%) and cardiac arrest (n=13, 8.1%) (Table 3). When the involvement of the cardiology physicians in the treatment was examined, it was determined that 95 (59.4%) were the primary responsible physician, and 6 (40.6%) consulting physicians participated in the treatment. No statistically significant difference was observed in the medical malpractice status according to the type of participation of the physician ($P > 0.05$).

Table 2: Distribution of healthcare institutions where cases were treated and followed up and the academic titles of physicians against whom a claim was made

		Medical malpractice		*P*-value*
		Present	Absent	
Hospital	Private hospital	5	84	1.000[a]
	State hospital	1	38	0.455[a]
	University hospital	1	6	0.340[a]
	Training and research hospital*	2	22	0.626[a]
Total		9	150	
Academic degree	Professor	1	7	0.379[a]
	Associate professor	0	7	1.000[a]
	Specialist	3	112	0.021[d]
	Resident	0	2	-
	More than one doctor	5	22	0.007[d]
Total		9	150	

[a]Fisher's Exact test, [d]Yates' continuity correction test, * $P > 0.05$

[1]*In 27 cases where the claim was made against more than one doctor, a total of 65 doctors were involved (33 specialists,* 20 residents, 1 assistant associate professor, 4 associate professors, 7 professors)

Of the 160 cases with a claim of medical malpractice related to the cardiology department, medical treatment was only applied to 105 (65.6%) patients and medical + surgical treatment to 55 (34.4%). No statistically significant difference was observed in the medical malpractice status according to the type of treatment ($P > 0.05$) (Table 4).

The presence of complications was evaluated. Complications were determined to have developed during treatment in 36 (22.5%) cases, and no complications developed during medical procedures in 124. No statistically significant difference was determined in the medical malpractice status according to the complication rates ($P > 0.05$) (Table 4). A great range of complications was observed in the 36 cases that developed complications, with the most frequent being cardiac arrest (n=8, 22.2%), followed by ventricular fibrillation (n=4, 11.1%), infection (n=4, 11.1%), and surgery-related vascular injury (n=4, 11.1%).

In the evaluations of malpractice made by the First FMEC of the FMI, the exact cause of death could not be determined in 1 case as no autopsy was performed; therefore, it was reported in this case that there was insufficient medical evidence for proof of medical malpractice. Of the remaining 159 cases, the decision of no medical malpractice was made in 150 (94.3%) cases (Figure 3).

Table 3: Distribution of complaints at the time of first presentation and diagnoses of cases

Diagnosis	n	%	Complaint	n	%
Coronary artery disease	75	46.9	Chest-arm pain	86	
Heart failure	13	8.1	Shortness of breath	20	
Cardiac arrest	12	7.5	Abdominal pain and diarrhea	8	
Aortic aneurysm dissection	8	5	Nausea, vomiting	7	
Heart valve disease	6	3.7	Headache, dizziness	6	
Diagnosis could not be performed	4	2.5	Back pain	5	
Congenital heart disease	3	1.9	Palpatations	4	
Rhythm and transmission disorders	3	1.9	Arrest	4	
Peripheral artery diseases	3	1.9	Follow-up examination	3	
Other*	33	20.6	Other	13	
Total	160	100		160	

*Other (cardiomyopathy, endocarditis, pericarditis, myocarditis, vascular injury, hypertension, cerebrovascular disease, foreign body aspiration, primary pulmonary hypertenssion, etc.)

Table 4: Evaluation of the treatments and complications according to the medical malpractice status

		Medical malpractice		*P*-value*
		Absent	Present	
Treatment	Medical	100	4	0.317[a]
	Surgical + Medical	50	5	
Total		150	9	
Complications	Present	34	2	1.000[b]
	Absent	116	7	
Total		150	9	

[a]Yates' continuity correction test, $P > 0.05$, [b]Fisher's exact test, $*P > 0.05$

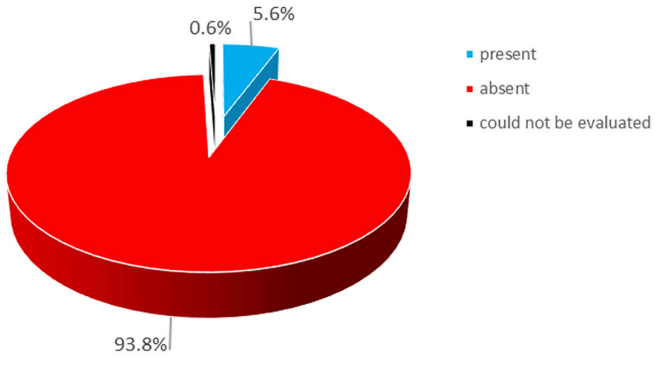


Figure 3: Distribution of the decisions made in respect of medical malpractice

The opinions given in respect of medical malpractice were determined to be diagnosis error in 6 (66.7%) of the 9 cases, follow-up error in 2 (22.2%) and treatment error in 1 (11.1%). In the detailed examination of the reasons for errors, not making a timely diagnosis was determined to be the most frequent erroneous action (Table 5).

In the 9 cases with confirmed medical malpractice, the most common diagnosis was CAD (n=6, 66.7%). Of these cases, malpractice was determined as a diagnosis error in 3, follow-up error in 2, and treatment error in 1. In 13 (8.1%) patients with a claim of medical malpractice related to heart failure, the claim was not verified. Of 8 (5%) patients with a diagnosis of aorta aneurysm-dissection, malpractice was determined in 2 (25%). In the 9 cases with medical malpractice confirmed by the FMI First FMEC reports, the error types and diagnoses made by the healthcare institution were examined. Errors in diagnosis, treatment, and follow-up were most common in patients diagnosed with CAD (Figure 4).

The autopsy status was evaluated for cases with a claim of medical malpractice, and it was determined that autopsy was performed in 59 (36.9%) cases and not in 101 (63.1%). Two exhumed cases were evaluated in the autopsy group. To evaluate the contribution of autopsy to the decision of the medical malpractice claim, groups were formed according to the agreement between clinical and autopsy diagnoses. Group 1: clinical diagnosis confirmed by autopsy; Group 2: clinical diagnosis changed by autopsy or there was no clinical diagnosis and diagnosis was made in the autopsy; Group 3: diagnosis could not be made by autopsy, whether or not there was a clinical diagnosis. According to these groupings, malpractice was determined in 4 (8.5%) cases in Group 1, with no statistically significant difference compared to the other groups ($P = 1.000$, $P > 0.05$) and in 1 (9.1%) case in Group 2 ($P = 1.000$, $P > 0.05$) (Table 6).

DISCUSSION

In recent years, there has been a rapid increase in claims of medical malpractice in Turkey, similar to throughout the world. The complaints process from beginning to end can cause severe physical and psychological negative effects on both the patient

Table 5: Distribution of error types in the cases with medical malpractice

Medical malpractice classification		n	%
Diagnostic error	Not making timely diagnosis	4	44.5
	Not requesting the necessary tests	2	22.2
Treatment error	Starting treatment late	1	11.1
Follow-up error	No referral/referral without care	1	11.1
	Early discharge	1	11.1

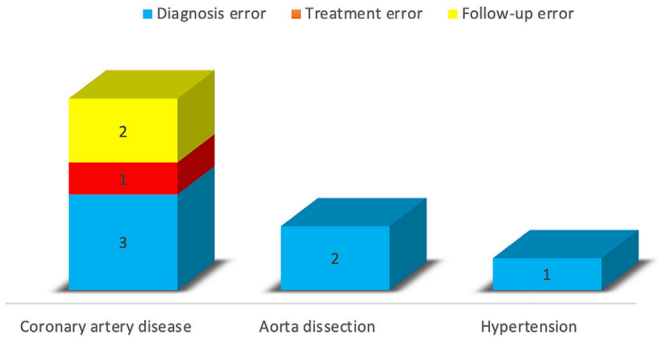


Figure 4. Distribution of the malpractice error types according to the diagnosis made by the healthcare institution

Table 6: Compatibility of clinical and autopsy diagnoses used to determine cause of death

		Medical malpractice		P-value*
		Absent	Present	
Groups	Group 1	43	4	1.000
	Group 2	10	1	1.000
	Group 3	1	0	-
Total		54	5	
Yates continuity correction test, *$P > 0.05$				

and the physician.[3,8,9] Therefore, the examination, analysis, and evaluation of cases of malpractice is extremely important to be able to prevent and overcome these processes.

Previous studies in Turkey have reported that most cases are male. In studies worldwide related to the cardiology department, some have reported a greater frequency of male gender, while others have shown a greater frequency of female gender.[10-13] Although male patients accounted for the majority of cases in the current study, the difference between the genders was very small. This finding was attributed to the fact that heart diseases are more common in males than in females.

Previous studies on the age distribution of cases of malpractice claims have shown that cases occurred in the fifth and sixth decades of life.[14] The majority of the current study patients were in their sixth decade of life, which is consistent with the literature. Many of the cardiology medical malpractice claims were closely consistent with the increase in middle-aged cardiology patients with heart disease in the general population demographic data.

When previous studies in Turkey were examined, it was determined that most claims of medical malpractice were in private hospitals, followed by state hospitals and tertiary-level hospitals.[15-17] Consistent with these findings in literature, the most claims of medical malpractice in the current study were found to be in private hospitals, followed by second-level state hospitals and tertiary-level healthcare institutions (training and research hospitals and university hospitals). In the years covered by this study, a direct investigation could be initiated by the Public Prosecutor's office regarding complaints related to doctors working in private hospitals. This difference was thought to be due to the studies being conducted at the stage of files coming to the Public Prosecutor or court.

Most complaints in previous studies were seen to have been made by the patients themselves and then later by the spouse and children. The reasons for the complaints have been reported to most often be treatment errors and lack of care.[8,18,19] In the current study, when the cases resulting in death were evaluated, the complaints were made most often by the spouse and children, and the most frequent reason was a claim of treatment error. This was thought to be because when a patients condition continued or worsened, close relatives believed that the treatment applied was wrong.

In some studies in Turkey, it has been reported that claims of medical malpractice sent to the FMI are most often sent by the Public Prosecutor.[8,10,11] Consistent with these data in the literature, 81.9% of the cases in the current study had been sent from the Public Prosecutor. The reason for this can be attributed to advances in the legal system, and most cases do not require prosecution at this level.

In previous studies, the number of cases related to medical malpractice has been determined to increase each year.[8,11,14] In the years in which the incident occurred, which were examined in the current study, the most cases were in 2012, and there was seen to be an increase in cases up to that year. This was thought to be due to the greater availability of information, the greater quest for patient rights, and especially high amounts of financial compensation.

When the diseases are examined causing a claim of medical malpractice related to cardiology, it has been seen that the most claims of medical malpractice were in cases with CAD.[12,13,18] In the current study, the primary disease diagnoses were examined in the cases for which an expert opinion was requested in respect of a claim of medical malpractice, and consistent with the literature, the most common diagnosis was of CAD. This finding was attributed to the fact that CAD

is the most frequently occurring heart disorder. In the current study, CAD was the most common diagnosis (n=6, 66.7%). Of these cases, an error in diagnosis was determined in 3, an error in follow-up in 2, and an error in treatment in 1. The range of patient complaints in CAD and the presence of additional diseases can mask some symptoms. Therefore, these types of situations can be misleading in the diagnosis of CAD.

When the diseases causing a claim of medical malpractice related to cardiology are examined, heart failure has been seen to follow CAD and is the reason for claims of medical malpractice at a low rate.[12,13,18] In the current study, the claims of medical malpractice associated with heart failure were ranked second with 13 (8.1%) cases, and it was decided that there was no malpractice in any of these cases. This was attributed to the relatively easy diagnosis and treatment of heart failure being relatively easy and well-known compared to other diseases.

Large vascular pathologies, such as aortic aneurysm dissection, which are characterized by chest or back pain and can be difficult to diagnose or be misdiagnosed, are diagnoses which are an uncommon cause of claims of medical malpractice.[20,21] In 8 (5%) cases of the current study there was a diagnosis of aorta aneurysm dissection, and in 2 (25%) of these there was determined to have been a diagnosis error. Aortic aneurysm dissection is not observed as frequently as CAD, and diagnosis can be difficult because it can mimic several clinical conditions.

Previous studies in Turkey have reported rates of medical malpractice of 15-40% in the branches of neurology, pediatric health and diseases, anesthesia, orthopedics, plastic surgery, ophthalmology, urology, gynecology, and obstetrics and general surgery.[10,11,22-26] In a thesis related to "Malpractice in Cardiovascular Diseases", malpractice was reported at the rate of 30.3% in the branch of cardiology.[27] In the current study, the physician malpractice rate was found to be 5.6%. This showed significant differences in the rates of medical malpractice according to the specialist branch and scope of studies performed. The reason for the lower rate of malpractice in the current study compared with previous studies related to cardiology was thought to be the inclusion of only cases that resulted in death.

Treatment errors have been seen more often in general surgery, neurosurgery, and urology, and diagnostic errors in neurology, pediatric health and diseases, and gynecology and obstetrics in previous studies in Turkey.[10,11,22-24] In cardiology in Turkey, treatment/follow-up errors have been reported to be the most frequent with the most errors in treatment.[27] In cardiology medical malpractice claims linked to the decision of the American Insurance data, diagnostic error was reported to be most commonly associated with CAD.[28] The results of the current study showed that the most frequent error made by cardiology physicians was in the diagnostic process (n=6, 66.7%). This was followed by errors in the follow-up process (n=2, 22.2%) and errors in the treatment process (n=1, 11.1%). Due to greater errors in the diagnostic process and high amounts of compensation, physicians may apply defensive-type practices to reduce the complaints of patients and their families and protect themselves from cases that are opened.[29] As no data on studies in Turkey related to defensive medical practices are available in the easily available literature, no further comment can be made on this point.

Previous studies on cardiology have shown that death is the primary reason for court cases. High mortality rates of 31-75% are striking.[12,13,18] That mortality rates are this high in medical malpractice claims in cardiology in particular increase the importance of autopsy in cardiology because autopsy is accepted as one of the most reliable methods in the prosecution of medical malpractice claims.[30-32] In cases with a claim of medical malpractice resulting in death in Turkey, the rate of autopsies performed varies between 42.6% and 74%.[10,11,22-24]

Autopsy was performed on 59 (36.9%) patients in the current study, but not on 101 (63.1%). It was thought that the low rate of autopsy in this study could be because the patient's relatives encountering an unexpected death did not immediately think about complaining about the event, that they do not have sufficient information about the procedure, that they do not want an autopsy for emotional reasons or especially because of religious beliefs, or associated with incorrect thoughts such as thinking that the physician requires permission from the family for an autopsy, and an autopsy would reveal errors of the physician.

Study Limitations

This study has several limitations that should be considered. These features include the fact that it was a single-center study with a relatively small sample size and that the study was retrospective.

CONCLUSION

Claims of medical malpractice are continuously increasing, and this has negative physical and psychological effects for healthcare personnel. Studies on this subject can provide guidance and help protect healthcare workers from potential negative effects. From a scan of the literature there were seen to be very few references on this subject, and therefore, it can be considered that increasing these types of studies will be able to guide clinicians.

Ethics

Ethics Committee Approval: This study was conducted in accordance with the principles of the Declaration of Helsinki

and was approved by the Institute of Forensic Medicine Scientific Research Committee (approval number: 21589509/1019, date: 15.12.2015).

Informed Consent: Retrospective study.

Footnotes

Authorship Contributions

Concept: F.K., İ.Ü., Design: F.K., İ.Ü., Data Collection or Processing: F.K., E.H., Analysis or Interpretation: F.K., E.H., İ.Ü., Literature Search: İ.A., İ.Ü., Writing: İ.A., İ.Ü.

Conflict of Interest: No conflict of interest was declared by the authors.

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REFERENCES

1. Celbiş O, Keser H, Börk T, Öner BS. Yüksek Yargı Kararlarında Tıbbi Uygulama Hataları. Akademisyen Kitapevi, 2018.
2. Güngör P, Doğan Merih Y, Yaşar Kocabey M. Farklı Ülkelerin Malpraktis Konusunda Yasal Düzenleme Girişimleri, Zorunlu Mali Sorumluluk Sigortası. ZEYNEP KAMİL TIP BÜLTENİ. 2012;43:128-38.
3. Tan SY. Medical Malpractice: A Cardiovascular Perspective. Cardiovascular Ther. 2012;30:140-5.
4. Altın İ, Okumuş H. Malpraktis etiyolojisi. Mızrak B, ed. Patolojide Malpraktis. 1. Baskı. Ankara: Türkiye Klinikleri; 2021;7-11.
5. WangF, Krishnan SK. Medical Malpractice Claims within Cardiology from 2006-2015. The American Journal of Cardiolog. 2018;123:164-8.
6. Polat O, Pakiş I. Tıbbi Uygulama Hatalarında Hekim Sorumluluğu. Acıbadem Üniversitesi Sağlık Bilim Derg. 2011;2:119-25.
7. Yorulmaz AC, Kır Z, Ketenci HÇ. Yeni Yasalar Çerçevesinde Hekimlerin Hukuki ve Cezai Sorumluluğu, Tıbbi Malpraktis ve Adli Raporların Düzenlenmesi-Tıbbi Uygulama Hataları ve Bilirkişilik, İ.Ü. Cerrahpaşa Tıp Fakültesi Sürekli Tıp Eğitim Etkinlikleri, Sempozyum Dizisi 48, 2006, İstanbul.
8. Çakmak C, Konca M, Teleş M. Türkiye ulusal güvenlik raporlama sistemi (grs) üzerinden tıbbi hataların değerlendirilmesi. Hacettepe Sağlık İdaresi Dergisi. 2018;21:423-48.
9. Chen J, Zhang T, Feng D, Liu L, Zhang T, Liu Y, et al. A 9-year analysis of medical malpractice litigations in coronary artery bypass grafting in China. J Cardiothorac Surg. 2023;18:73.
10. Yıldız MF. Adli Tıp Kurumunca Görüş Bildirilen Göz Hastalıkları Dalında Tıbbi Uygulama Hatası İddiası Bulunan Olguların Değerlendirilmesi (Uzmanlık Tezi). Adli Tıp Kurumu. İstanbul, 2015.
11. Çoban İ. Adli Tıp Kurumu'nca Görüş Bildirilen Nöroloji ve Nöroşirüriji Dalında Tıbbi Uygulama Hatası (Thesis). Adli Tıp Kurumu. İstanbul, 2013.
12. Mangalmurti S, Seabury SA, Chandra A, Lakdawalla D, Oetgen WJ, Jena AB. Medical Professional Risk among U.S. Cardiologists. Am Heart J. 2014;167;690-6.
13. Santiago-Sáez A, Perea-Pérez B, Albarrán-Juan ME, Labajo-González E, Anadón-Baselga MJ, Almendral-Garrote J. Analysis of Judgements in the Practice of Cardiology Resolved on Appeal in Spain Between 1992 and 2007. Rev Esp Cardiol. 2012;65;801-6.
14. Benjamin EJ, Blaha MJ, Chiuve SE, Cushman M, Das SR, Deo R, et al. Heart Disease and Stroke Statistics-2017 Update: A Report From the American Heart Association. Circulation. 2017;135:146-603.
15. Çakmak C, Balçık PY. Sezaryen yöntemi ile gerçekleştirilen doğumlarda ortaya çıkan malpraktis olgularının Yargıtay kararları ile incelenmesi. Jinekoloji - Obstetrik ve Neonatoloji Tıp Dergisi. 2019;16:155-9.
16. Çarıkçı F, Eslek S, Kırbaş Ç, Aktaşçı B, Baştimur F. Günlük gazetelere yansıyan tıbbi uygulama hataları üzerine retrospektif bir inceleme. Journal of Medical Sciences. 2021;2:59-66.
17. Özdemir E. Ölümlü Genel Cerrahi Tibbi Uygulama Hata İddiası Bulunan Olguların Değerlendirilmesi (Uzmanlık Tezi). Adli Tıp Kurumu. İstanbul, 2015.
18. Claudot F, Alla F, Villemot JP, Aliot E, Coudane H, Juillière Y. Analysis of patient claims related to care in a university cardiology department over the period 2003 - 2007. Arch Cardiovasc Dis. 2010;103;595-602.
19. Artar C, Güçlü A. Sağlık işletmelerinde yanlış tedavi sonucu hasta mağduriyetleri ve hukuki boyutunun incelenmesi. Aydın Sağlık Dergisi. 2020;6:235-47.
20. Yan SY. Medical Malpractice: A Cardiovascular Perspective. Cardiovasc Ther. 2012;30:140-5.
21. Elefteriades JA, Barrett PW, Koff GS. Litigation in nontraumatic aortic disease - a tempest in the malpractice maelstrom. Cardiology. 2008;109;263-72.
22. Sarıca N, Ertan A, İçmeli S, Birgen N, Ovalp F. Evaluation of pediatric malpractice litigation cases from medico - legal point of view. J Med Sci. 2009;29(4):884-9.
23. Alkan G. Yüksek Sağlık Şurasında 2000-2009 Yılları Arasında Değerlendirilen Anestezi İle İlişkili Uygulama Hataları (Thesis). Gazi Üniversitesi Tıp Fakültesi Anestezi ve Reanimasyon Anabilim Dalı. Ankara, 2010.
24. Tümer AR. Evaluation of orthopedic surgical litigations which was discussed in Health Council during 1966-2000. Journal of Arthroplasty & Arthroscopic Surgery. 2003;14:182-7.
25. Öner S. Estetik ve Kozmetik Amaçlı Girişimler ve Medikal Uygulamalara Bağlı Tıbbi Uygulama Hatası İddiası Olgularının Değerlendirilmesi (Thesis). Adli Tıp Kurumu. İstanbul, 2013.
26. Çom U, Üzün İ, Gümüş B. Evaluation of Obstetrics and Gynecology Medical Malpractice Claims Resulting to Death. J Contemp Med. 2020;10:567-72.
27. Karpuz H. Medical Malpractice Cases Related To Cardiovascular Disaeses. İstanbul University, Institute of Health Science, Thesis. İstanbul, 2015.
28. Tan SY. Medical malpractice: a cardiovascular perspective. Cardiovasc Ther. 2012;30:e140-5.
29. Stoll P. Defensive Medicine Beitr Gericthi Med. 40:35-40, 1982.
30. Studdert DM, Mello MM, Sage WM, DesRoches CM, Peugh J, Zapert K, et al. Defensive medicine among high-risk specialist physicians in a volatile malpractice environment. JAMA. 2005;293:2609-17.
31. Madea B, Vennedey C, Dettmeyer R, Preuss J. Outcome of preliminary proceedings against medical practitioners suspected of malpractice. Dtsch Med Wochenschr. 2006;131:2073-8.
32. Shojania KG, Burton EC. The vanishing nonforensic autopsy. N Engl J Med. 2008;358:873-5.
33. Start RD, Cross SS. Pathological investigation of deaths following surgery anesthesia and medical procedures. J Clin Pathol. 1999;52:640-52.