Journal of Forensic and Legal Medicine 48 (2017) 41–45

Contents lists available at ScienceDirect

Journal of Forensic and Legal Medicine

journal homepage: www.elsevier.com/locate/jflm

Learning from an analysis of closed malpractice litigation involving myocardial infarction

Kuan-Han Wu[*, 1], Yung-Lin Yen [1], Chien-Hung Wu, Chi-Yuan Hwang, Shih-Yu Cheng

Department of Emergency Medicine, Kaohsiung Chang Gung Memorial Hospital, Chang Gung University College of Medicine, No.123, Dapi Rd., Niaosong Township, Kaohsiung County 833, Taiwan

ARTICLE INFO

Article history:
Received 21 February 2017
Accepted 12 April 2017
Available online 13 April 2017

Keywords:
Closed claims analysis
Medical litigation
Myocardial infarction

ABSTRACT

Objective: To examine the epidemiologic data, identify the pattern of dispute, and determine clinical litigious errors by analyzing closed malpractice claims involving myocardial infarction (MI) in Taiwanese courts.

Methods: A retrospective descriptive study was performed to analyze the verdicts pertaining to MI from the population-based database of the Taiwan judicial system between 2002 and 2013. The results of adjudication, involved specialists, primary dispute leading to lawsuits, and litigious errors were recorded.

Results: A total of 36 closed malpractice claims involving MI were included. The mean interval between the incident and litigation closure was 65.5 ± 28.3 months. Nearly 20% of the cases were judged against clinicians and the mean payment was $100639 ± 49617, while the mean imprisonment sentence was 4.3 ± 1.8 months. Cardiologists and emergency physicians were involved in 56.3% of cases, but won 92.6% of lawsuits, while other specialists lost nearly 25% of lawsuits. The most common dispute was misdiagnosis (38.9%), but this dispute had the lowest percentage of loss (7.1%). Disputes regarding delayed diagnosis were judged against the defendants in 50% of claims. Clinicians lost the lawsuit in the following conditions: 1) misdiagnosis of MI in patients with typical chest pain and known coronary artery risk factors; 2) failure to perform thoughtful evaluation and series investigations in patients suspicious of ischemic heart disease; 3) failure to perform indicated treatment to avoid disease progression.

Conclusions: Medical practitioners should keep a high index of MI suspicion, especially if the diagnosis and treatment of MI are beyond their daily practice. Prudent patient reevaluation, serial ECG and cardiac enzyme testing, and early consultation are suggested to reduce malpractice liability.

1. Introduction

Myocardial infarction is the leading cause of death worldwide, accounting for 11.2% of all deaths globally in 2011.[1] Failure to diagnose an MI might generate a significant malpractice liability risk, because incorrectly discharged patients have a high risk (up to 25%) of short-term mortality.[2,3] Even in cases with prompt diagnosis, the high frequency of unpredictable adverse events and high mortality rate might easily lead to litigation in patients with poor outcomes.

Some studies showed that MI was the most common diagnosis and underlying cause associated with negligent claims in primary care[4] and among cardiologists.[5] The high burden of this disease created a need for further study of MI-related litigation pattern. Knowing litigious errors in clinical practice by reviewing previous malpractice claims may improve patient care and provide evidences to avoid similar negligence. In anesthesia and obstetric specialties, safety guidelines based on past medical malpractice litigation analysis demonstrated improvements in lawsuit-related incidence and costs.[6]

Previous studies introduced risk management strategies to minimize the risks arising from the diagnosis and treatment of MI,[7,8] but the literature that assessed patterns of closed malpractice MI claims decided by court remains limited. Malpractice claims characteristics derived from the US National Practitioner Data Bank or insurer databases[5,9] might not reflect true court's opinion. Closed courts' verdicts analysis is necessary, because these verdicts might reflect the differences between the guilty claims characteristics and those settled by insurers.

* Corresponding author. 21F-3, No.123-11, Dapi Rd., Niaosong Township, Kaohsiung County 833, Taiwan.
E-mail address: hayatowu1120@gmail.com (K.-H. Wu).
[1] Are co-first authors and have contributed equally to this work.

http://dx.doi.org/10.1016/j.jflm.2017.04.003
1752-928X/

By analyzing the closed litigation involving MI in Taiwan's population-based national judicial databank, this descriptive study aimed to identify the epidemiologic factors of the legal process, to explain the pattern of clinical dispute that lead to lawsuit, and to determine the errors that led to a lost lawsuit. Learning more about this information can increase practitioners' understanding of their liability risks and reduce medicolegal claims.

2. Methods

2.1. Study design

A medical malpractice claim was defined as a litigation against healthcare provider filed by a patient or patient's family for an injury related to medical care. We conducted a retrospective study and reviewed the Taiwanese criminal and civil court close verdicts that pertained to MI between 2002 and 2013. Our Institutional Review Board approved this study.

2.2. Study settings and population

The Taiwanese Ministry of Justice maintains a population-based, electronic, de-identified database, called "The Judicial Yuan of the Republic of China Law and Regulation Retrieving System," which includes all civil and criminal verdicts that have reached the 3-level court system, including District Courts, High Courts, and the Supreme Court since 2000. To collect closed verdicts pertaining to MI, we searched the criminal and civil verdicts of District Courts from January 2002 through December 2013. In civil court, we used the keywords "damages" (the compensation basis for malpractice judgments) and "physician" for searching malpractice cases. The keywords "vocational negligence" and "physician" were used for searching, because they were used to express the judicial basis for malpractice in the Taiwan criminal law system.

After verdict identification, co-authors reviewed and selected MI-related verdicts compatible with the above-defined medical malpractice claims. The appeals process of selected cases were then traced in the database to decide whether they were closed, defined as either the verdicts were concluded by the Supreme Court judgment, or the plaintiffs had no appeal after the District Court or High Court adjudication. Trials decided before December 31, 2015 were enrolled.

2.3. Outcome measures

Documented data included the results of judgments, level of involved medical institution, number and specialty of involved medical personnel, patient outcome, and length of time between the incident and litigation closure. The result of judgments were considered "loss" if the clinician was judged to pay a compensation in civil court or guilty in criminal court. The amount of indemnity paid in civil court and the sentences (length of imprisonment) in criminal court were documented. Four levels of hospital classification were used, comprising medical centers, regional hospitals, district hospitals, and clinics, based on the Taiwanese accreditation system. The specialty of involved medical personnel was categorized into: 1) cardiovascular (CV); 2) internal medicine (IM), including all non-CV non-surgeon internal medicine specialties, such as family medicine, gastrointestinal, chest specialty, etc.; 3) emergency medicine (EM); and 4) others. If the residents were sued, they were categorized into the specialty in which they worked at the time of medical dispute. The outcomes of injuries were categorized into three severity levels: 1) death, 2) grave injury, such as brain injury that causes a vegetative state, 3) other injury.

If the court needed a testimony to differentiate whether the medical process was consistent to standard of care, medical records would be sent for medical appraisal to a medical organization, a specialty medical association, or, as happens in most cases, to the official Malpractice Arbitration Committee. The Malpractice Arbitration Committee consists of expert members from the medical and law fields and offers free professional medical appraisal for courts. The results of medical appraisals were recorded and categorized into "appropriate" (acted in accordance with consensus standard care), "negligent" (medical care not conforming to the standard care), or "controversial" (medical care was partially improper, but not to the degree of negligence or there was a discordance between each appraisal result).

Primary dispute was defined as the single most significant argument of plaintiffs that led to the litigation. The type of primary dispute was categorized into three groups, including misdiagnosis, delayed diagnosis, and performance error. Misdiagnosis was considered in cases of failure to suspect ischemic heart diseases or MI and unrelated diagnosis establishment. Delayed diagnosis was considered in cases with initial diagnosis related to ischemic heart disease, but failure to order appropriate investigations or delay in interpretation of results of investigations. Performance errors were those MI was diagnosed correctly, but the treatment was considered inappropriate by the plaintiff, including failure to perform an indicated treatment or failure to arrange a timely consultation. Failures of early procedure complications recognition and treatment were grouped into performance error. Two co-authors independently determined the categories of primary dispute and the final decision was made through a consensus meeting with a third reviewer in inconsistent cases.

2.4. Data analysis

Descriptive statistics were used to evaluate the data. Data were presented as mean ± standard deviation (SD) and percentages (%), and analyzed using Student's t-test. The indemnity amount was presented in US (United States) dollars, with an exchange rate of 30:1 to Taiwan dollars.

3. Results

All 12,842 verdicts extracted from the District Court's database (9669 verdicts in Civil court and 3173 verdicts in Criminal court) between January 1, 2002 and December 31, 2013 were retrospectively reviewed. A total of 1259 closed medical malpractice claims were identified and their appeals processes were traced. After review, 38 MI-related malpractice litigation cases were found. After eliminating the two duplicate cases in both civil and criminal court due to the same dispute, the remaining 36 closed verdicts comprised the study group.

The basic demographic data of malpractice claims are shown in Table 1. In total, 80.6% of cases were settled in favor of the clinician. Only 7 cases (19.4%) loss their trial with a mean payment of $100639 ± 49617 and mean imprisonment sentences 4.3 ± 1.8 months. The mean length of time between the incident and litigation closure was 65.5 ± 28.3 months. The cases in which indemnity was paid took longer to conclude than cases in which indemnity payment was not ordered, but no statistical significance was found ($p = 0.857$). The majority of patients had tragic outcomes, with 83.3% of plaintiffs having expired or experienced grave injury (11.1%). From all verdicts related to patients' death, the percentage of clinician loss was 23.3%. Among 36 involved hospitals, the majority of cases came from regional hospitals (38.9%) and the percentage of paid claims was also the highest in regional hospitals (28.6%). Although the medical centers accounted for 30.6% of