Medicolegal Characteristics of Cardiac Catheterization Litigation in the United States, 1985 to 2009

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There are few assessments of patterns of medicolegal cases involving cardiac catheterizations. This descriptive study reviews the patterns of liability and medical outcomes involving cardiac catheterization litigation from the LexisNexis Academic database and the Physician Insurers Association of America registry. From 1985 to 2009, the Physician Insurers Association of America registry documented 1,361 closed coronary angiography claims. The cardiovascular disease specialty was involved in 699 with other specialties involved in the remaining cases. Of the 1,361 closed claims, 301 (22%) resulted in payments to the plaintiff (average indemnity of $230,987). The most common alleged error was for improper performance (35.4%; average indemnity of $255,542). The alleged error with the highest average indemnity of $270,916 was errors in diagnosis. Not performing an indicated procedure had the highest ratio of paid to closed claims (41%) with an average indemnity of $246,988. In regard to the severity of injury, death was the most common outcome (44%). The highest ratio of paid to total closed claims (43%) was for grave injuries (highest average indemnity of $555,625). Of the 116 LexisNexis cases, litigation against physicians occurred in 90.5% of cases with judgments in favor of the patients in 29.5%. When death was the outcome (31% of cases), physicians were highly likely to be sued (97%) and the judgment was more likely in the plaintiffs' favor (44%). In conclusion, in litigation related to cardiac catheterizations, most cases are due to medical malpractice and physicians are sued in a high percentage of cases. Cardiologists should recognize these patterns of litigation as these may impact and improve processes of care. Published by Elsevier Inc. (Am J Cardiol 2013;112:1662−1666)

The widespread use of cardiac catheterization makes it an important aspect of cardiovascular (CV) litigation to investigate as the number of medical professional liability (MPL) claims seems to be correlated to the frequency with which procedures are performed.[1] According to the American College of Cardiology/American Heart Association, cardiac catheterizations were the second most frequent in-hospital operative procedure performed in the United States in 1993.[2] In 2010, diagnostic cardiac catheterization remained as the second most common procedure among hospitalized patients aged 45 to 64 years and was the third most common procedure in adults aged 65 to 84 years.[3] Another study states that percutaneous coronary intervention (PCI) is now the most common procedure for patients with coronary heart disease.[4] Medical malpractice litigation cases have been studied in other procedure-based specialties, such as radiology, to recognize medicolegal risks and develop risk management processes to minimize malpractice and improve patient care.[5] Similarly, this descriptive study focuses on MPL claims involving cardiac catheterization to identify common trends, which may be useful in developing standards to help minimize the risks of litigation and improving patient care.

Methods

The LexisNexis Academic database (LexisNexis is division of Reed Elsevier, Dayton, Ohio), a publically available and searchable archive, was searched for published legal case opinions involving the keyword "cardiac catheterization". Data were obtained from 1,441 cases; of which, 116 cases involved patients who were litigating partially or fully related to the cardiac catheterization from 1976 to 2010. Each legal case opinion was reviewed for the following data: the date the case was decided, plaintiff, defendant, patient outcome, and trial outcome.[6]

Data were additionally obtained from the Physician Insurers Association of America (PIAA)—a registry that collects data on MPL closed claims that have been resolved either, with or without payment to the claimant, through private agreement between the parties or by court action. The PIAA is a trade association of >50 liability insurance companies that covers >60% of private practice physicians. Diagnostic information and procedures are submitted to the PIAA using the *International Classification of Diseases, Ninth Revision* coding system. The PIAA then classifies data within broad categories. A search was submitted for cases involving coronary angiography from 1985 to 2009 and information was gathered on medical specialties, claimant and physician demographics, severity of outcome, alleged error, diagnosis, and trial outcome. Despite its limitations, the PIAA database appears to be the best source of information regarding MPL claims.[7]

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See page 1666 for disclosure information.

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Table 1
Most common alleged errors in the Physician Insurers Association of America database

Alleged Error	Closed Claims	Paid Claims	Percentage of Paid to Closed Claims	Indemnity Paid ($)	Average Indemnity ($)
Improper performance	482	115	24	29,387,339	255,542
No medical misadventure	316	22	7	4,283,499	194,705
Errors in diagnosis	135	45	33	12,191,237	270,916
Failure to supervise or monitor case	109	32	29	7,349,142	229,661
Failure to recognize complication of treatment	96	27	28	5,756,249	213,194
Performed when not indicated or contraindicated	56	11	20	1,250,900	113,718
Delay in performance	36	9	25	1,771,500	196,833
Not performed	34	14	41	3,457,828	246,988
Surgical foreign body left in patient	24	9	38	2,040,330	226,703
Failure or delay in referral or consultation	18	6	33	545,000	90,833
Other	55	11	20	1,493,937	135,812
Total	1,361	301	22	69,526,961	230,987

Closed claim is a claim that has been settled or otherwise disposed of by the insuring entity, self-insurer, facility, or provider. A claim may be closed with or without an indemnity payment to a claimant.

Table 2
Severity of injury in the Physician Insurers Association of America[18] database

Severity Index	Closed Claims	Paid Claims	Percentage of Paid to Closed Claims	Total Indemnity ($)	Average Indemnity ($)
Death	600	170	28	45,604,040	268,259
Major temporary injury	245	35	14	5,944,783	169,851
Minor permanent injury	134	25	19	4,035,228	161,409
Minor temporary injury	130	20	15	1,061,878	53,094
Significant permanent injury	114	19	17	2,865,584	150,820
Major permanent injury	54	14	26	3,239,499	231,393
Insignificant injury	33	4	12	77,450	19,363
Grave	28	12	43	6,667,499	555,625
Emotional injury only	23	2	9	31,000	15,500
Total	1,361	301	22	69,526,961	230,987

Closed claim is a claim that has been settled or otherwise disposed of by the insuring entity, self-insurer, facility, or provider. A claim may be closed with or without an indemnity payment to a claimant.

Definitions of PIAA

- Claim is any written or oral demand for compensation in the form of money or services, with no legal paper having been filed in court. Policy provisions require insurers to notify the insurance company immediately on notice of a claim. Many claims that are unresolved later become suits.
- Indemnity refers to settlements or awards made directly to plaintiffs as a result of claim-resolution process.
- Medical misadventure is a descriptive terminology relating to an alleged principal departure from accepted medical practice. Twenty-eight misadventures are used in this study and can be broadly categorized as diagnosis related, procedure related, or case management related.
- No medical misadventure refers to those claims that are believed to have legal merit but have no associated medical mishap.
- Severity of a patient's injury is coded using the National Association of Insurance Commissioners severity codes 1 (emotional injury only) through 9 (death).

Results

The PIAA registry from 1985 to 2007 recorded a total of 230,624 closed claims, with 68,180 of those claims being paid. The number of closed claims involving cardiology was 4,248 with 770 (18%) of those claims being paid. CV medicine, along with gastroenterology, closed claims represented the lowest percentage (18%) of paid to closed claims for the 28 specialties studied. Of the CV medicine closed claims, cardiac catheterizations were involved in 12% of claims and coronary angioplasty was involved in 7% of claims.

From 1985 to 2009, the PIAA data registry documented 1,361 closed claims involving coronary angiography. CV medical specialists were involved in most claims (51.3%) followed by internal medicine (31.1%) and cardiothoracic surgery (8%). Of the 1,361 coronary angiography closed claims, 301 (22%) resulted in payments to the plaintiffs for a total indemnity of $69,526,961 and average indemnity of $230,987 per claim. Of the 699 claims involving CV medical specialists, 147 resulted in payment to the plaintiffs (21%) with $209,904 being the average indemnity paid per claim.

Most claims involving coronary angiography were voluntarily dismissed (36.1%), with almost 1/2 of these resulting in payment to plaintiffs (45%). All reasons for voluntary dismissal such as settlement or other grounds were not available for analysis. The average indemnity paid per claim with voluntary dismissal (including settlement of