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Complications and Legal Outcomes of Tonsillectomy Malpractice Claims

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Objectives/Hypothesis: To review malpractice cases involving complications following tonsillectomy.

Study Design: Retrospective analysis at a tertiary medical center of jury verdict reports within the LexisNexis (Dayton, OH) database submitted after tonsillectomy malpractice cases.

Methods: The LexisNexis MEGA Jury Verdicts and Settlements database was reviewed from 1984 through 2010 for complications resulting from tonsillectomy. Data including year of case, surgical complication, injury, case result, and judgment awarded were collected and analyzed.

Results: One hundred seventy-eight reports met inclusion criteria and were reviewed. Postoperative bleeding was the most common complication (33.7%), followed by anoxic events (16.9%), and impaired function (15.7%). Patient death occurred in 40.4% of reports and was most frequently associated with postoperative bleeding (54.2%), followed by anoxic events (18.1%), and postoperative medication issues (16.7%). Monetary awards were available in 24.7% of reports. Anoxic event was noted to have the highest median award at $3,051,296, followed by postoperative medication at $950,000.

Conclusions: Tonsillectomy carries a large amount of risk from a malpractice standpoint. Postoperative bleeding is the complication most commonly associated with malpractice claims, but may not carry the greatest overall risk from a patient care or monetary standpoint. Hypoxic and anoxic events, although less common, appear to carry more morbidity for the patient and are associated with greater settlements and judgments in malpractice claims. Tonsillectomy continues to carry a significant mortality risk, albeit infrequent, and a high level of vigilance should be employed to help reduce these risks.

Key Words: Tonsillectomy, malpractice, litigation, settlement, complications.

Level of Evidence: 4.

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INTRODUCTION

Identification and minimization of surgical complications is of great importance to all surgeons. It leads to increased safety and improved patient outcome and care. Additionally, it is of great importance that all physicians have a better understanding of what situations lend themselves to increased exposure from a malpractice standpoint. One area in which otolaryngologists continue to be particularly vulnerable is with tonsillectomies. There are a number of circumstances that can lead to morbidity and mortality when a tonsillectomy is performed, including airway fires, hypoxic events, and bleeding, not to mention innumerable unusual events that may present themselves throughout one's career. There have been a number of studies that looked at the complications of tonsillectomies and the legal ramifications that have ensued, which have demonstrated that bleeding and burn injuries are the most commonly reported adverse events.[1] Additionally, an attempt has been made to attach a monetary value reached in settlements or judgments to some of these adverse events.[2]

This study examined the outcomes of tonsillectomy malpractice cases over the last 26 years in an effort to better illustrate what types of injuries are most commonly encountered and how they may be avoided. In addition, we attempted to see if certain injuries are more likely to lead to greater settlements or judgments against the defendant physicians.

MATERIALS AND METHODS

The MEGA Jury Verdicts and Settlements database maintained by LexisNexis (Dayton, OH) was used to search all reported jury verdicts and settlements from 1984 through 2010. Jury verdict reports are summaries of legal cases that provide information including case issues, date, injury, plaintiff, defendant, and disposition, including any judgment awarded or settlement reached. Jury verdict reports are voluntary submissions and the amount of information in each case varies significantly. Therefore, they do not represent a comprehensive and all-inclusive account of every medical malpractice claim. This study was exempt from review by an institutional review board because no human subjects were involved and no protected patient information was reviewed.

The MEGA Jury Verdicts and Settlements database was searched using "tonsillectomy" and "malpractice" as search terms. Specific information obtained from each report (if available) included year of case, alleged surgical complication,

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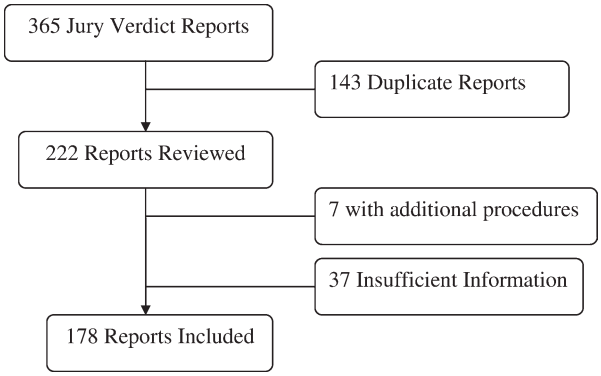

Fig. 1. Selection of jury verdict reports for analysis.

alleged injury, case result, and any monetary judgment awarded or settlement that was reached. Cases were excluded if the injury was a result of another surgical procedure, if another surgical procedure was performed in addition to tonsillectomy with or without adenoidectomy, or if it was a duplicate report. Additionally, reports were excluded if the amount of information was not enough to be useful in this study.

RESULTS

The database search returned 365 jury verdict reports with keywords "tonsillectomy" and "malpractice." Each report was reviewed for relevancy and amount of information contained within. One hundred forty-three reports were duplicates. Seven were excluded because another procedure besides adenoidectomy had been performed as well as tonsillectomy. Thirty-seven were excluded because the amount of information available in the report was not sufficient to be included in this study. This left 178 cases from 1984 through 2010 that met the inclusion criteria (Fig. 1).

Complications

Complications were grouped into several categories based on information obtained from the jury verdict reports (Table I). The most common complication was postoperative bleeding, accounting for 60 of the 178 cases (33.7%). This included claims for bleeding (extending hospital stay, need for blood products) and for airway issues that arose secondary to postoperative bleeding (aspiration of clots). Anoxic events either intraoperatively or postoperatively occurred in 30/178 cases (16.9%). Complications causing impaired function such as nerve damage, impaired swallowing, or altered taste were noted in 28/178 cases (15.7%). Other categories included 19 miscellaneous events that occurred intraoperatively (10.7%), 13 oral burns (7.3%), 12 events caused by postoperative medications (6.7%), 11 postoperative infections (6.2%), and five airway fires (2.8%).

TABLE I.
Complication Categories (N = 178).

Complication	No. (%)
Postoperative bleeding	60 (33.7)
Anoxic event	30 (16.9)
Impaired function	28 (15.7)
Intraoperative miscellaneous	19 (10.7)
Oral burn	13 (7.3)
Postoperative medication	12 (6.7)
Infection	11 (6.2)
Airway fire	5 (2.8)

TABLE II.
Mortalities From Complications (n = 72).

Complication	No. of Deaths	% of All Deaths
Postoperative bleeding	39	54.2
Anoxic event	13	18.1
Postoperative medication	12	16.7
Intraoperative event	5	6.9
Infection	3	4.2
Airway fire	0	0
Oral burn	0	0
Impaired function	0	0

Mortality

Seventy-two patients (40.4%) died and 106 cases (59.6%) resulted in patient injury. Postoperative bleeding was the most frequently noted fatal complication (39/72; 54.2%), followed by anoxic events (13/72; 18.1%), and postoperative medication issues (12/72; 16.7%) (Table II). Several categories not associated with loss of life included airway fires, functional impairment, and oral burns.

Judgments/Settlements

Data pertaining to either awarded judgments or financial settlements were available in 44 of 178 reports (24.7%). The mean monetary payment was $2,388,075 and the median payment was $625,000. Complications resulting in patient death had mean and median payments of $1,227,731 and $950,000, respectively, compared to complications resulting in injury with payments of $3,191,389 and $350,000. The complication with the greatest median payment was anoxic events at $3,051,296; followed by postoperative medication events, $950,000; postoperative bleeding, $600,000; and intraoperative miscellaneous events, $557,500 (Table III).

TABLE III.
Indemnity by Complication.

Complication	Mean Payment ($US)	Median Payment ($US)
Anoxic event	9,017,379	3,051,296
Postoperative medication	1,710,445	950,000
Postoperative bleeding	1,213,352	600,000
Intraoperative miscellaneous	574,625	557,500
Infection	350,000	350,000
Impaired function	619,678	275,000
Oral burn	289,685	180,000
Airway fire	No Data	No Data

DISCUSSION

Tonsillectomies are one of the most common procedures performed by otolaryngologists in the United States with over 700,000 performed every year.[3] Appropriate indications for tonsillectomy have been developed, and it is generally regarded as a safe procedure that is usually performed on an outpatient basis.[4] Multiple studies have shown the most frequent complications associated with tonsillectomy are postoperative bleeding, emesis, dehydration, and poor oral intake.[5–8] Complications causing death are even more remote and are reported to occur at a rate of one per 16,000 to 25,000 cases.[9,10] Even with the low rate of complications reported with tonsillectomies, it represents an area of relatively great liability exposure for the otolaryngologist.

In this analysis, we have again shown that bleeding represents a significant portion of the malpractice claims against surgeons (33.7%), which is in agreement with previously reported findings. Bleeding complications included cases with excessive blood loss requiring transfusions as well as additional medical care. Cases were also included in the bleeding category if the complication occurred during control of the postoperative bleed, such as aspiration of clot. Postoperative bleeding has been a well-established risk of tonsillectomy, with a rate of approximately 2% to 4%.[6,7,11] In a study by Windfuhr et al. evaluating sequela of serious post-tonsillectomy bleeding in children, 29/55 patients had repeat episodes of bleeding, 4/55 had neurological sequela, and 19/55 died as a result of their serious post-tonsillectomy bleeding.[12] In our series, postoperative bleeding represented the third highest median payment at $600,000. In the two cases with the highest payments, the complication was not directly related to blood loss but to airway complications as a result of the bleeding. A $5.35 million settlement was reached for "difficult intubation secondary to bleeding" resulting in anoxic brain injury, and a $3.0 million settlement was reached because of death secondary to aspiration of blood. This indicates that although postoperative bleeding remains an important source of malpractice, blood loss may not be the only complication, and an important focus should continue to be a safe and stable airway.

Hypoxic/anoxic events either intraoperatively or postoperatively were shown to be a major source of malpractice claims (16.9%). This is in agreement with a 2008 study by Morris et al., which identifies postoperative respiratory complications as a frequent cause of death or major injury in malpractice cases.[2] Hypoxia in the postanesthesia care unit (PACU) is a common event, occurring in 46% to 55% of surgical cases, but it is usually detectable and treatable without any adverse effects.[13–15] Interesting reports in our study included compression of the endotracheal tube by the mouth gag leading to hypoxia, an excessively large endotracheal tube causing airway edema and subsequent hypoxia, aspiration of a scab leading to asphyxiation postoperatively, and failure to provide oxygen during cardiopulmonary resuscitation. Some of these events are truly odd occurrences that may be unavoidable. They should, however, serve as a reminder to all otolaryngologists to have solid indications for performing surgery that are documented appropriately and to be aware and involved in all aspects of patient care when possible. Anoxic events were associated with the greatest median compensation paid to plaintiffs at almost $3.1 million per case. This coincides with the Morris study reporting the mean indemnity of postoperative respiratory complications at $3.06 million.[2] The reports with the greatest monetary payments also were noted to be associated with an anoxic event. The three greatest payments in our study included $45 million for intraoperative hypoxia, $13.9 million for hypoxia in the PACU, and $5.7 million for failure to monitor postoperatively leading to hypoxic brain injury. This information provides evidence that hypoxic events, both intraoperatively and postoperatively, are one of the most common sources of malpractice claims, the costliest to resolve, and among the most devastating to both patients and their families.

Recently, the use of narcotic pain medication in children postoperatively has come under scrutiny. There are multiple reports of anoxic brain injury or intoxication attributed to the use of codeine or codeine-containing products.[16,17] These cases involve patients with increased cytochrome P450 2D6 (CYP2D6) activity who are ultrarapid metabolizers of codeine to its active form of morphine.[18] This leads to increased accumulation of morphine and subsequent respiratory depression or arrest. Conversely, patients may also be slow metabolizers of codeine, which can lead to increased pain postoperatively. In this analysis, complications from postoperative medication were seen in 6.7% of all reports. This is consistent with a previous reports from Simonsen et al. in 2010 showing that 5.8% of malpractice claims were medication related.[1] That being said, in our study it was associated with the second greatest indemnity with a median payment of $950,000 per case. Additionally, all 12 cases associated with postoperative medication led to death of the patient. This indicates that, although these complications are somewhat rare, the ramifications can be devastating both clinically and legally. Several strategies can be implemented to help reduce the possible morbidity with postoperative pain medication. A genetic test identifying mutations in CYP2D6 is available that helps categorize patients based on metabolism of codeine.[19,20] Use of this screening test can detect patients who may be at increased risk of an adverse event, or alternatively, may not receive any pain relief from postoperative codeine use. The test is costly at the present time and not really clinically applicable. As a result, another strategy may be to increase the age limit for which codeine is used postoperatively. At our institution, codeine is not given to any child under 6 years old in an attempt to decrease the exposure to patients who are at the most risk of respiratory depression. This topic is clearly an area of controversy, and the postoperative pain control regimen should be based on the individual patient and physician.

Airway fires and oral burns are consistently reported as complications of tonsillectomy. Previous reports have shown oral burns to be a frequent cause of

malpractice claims (18.2%).[1] In our series, oral burns were the cause of 7.3% of malpractice claims and had the lowest median payment of $180,000. This may be because oral burns are a very preventable complication with relatively low morbidity when they do occur. Airway fires were also an infrequent complication (2.8%). This is due most likely to the recent increased vigilance of anesthesia, surgeon, and operating room staff in preventing surgical fires over the last several years.[21–23]

Informed consent in combination with patient and family communication are also essential to minimizing psychological morbidity in the setting of a postoperative complication. Fully detailing the potential risks, benefits, and alternatives prior to any procedure is essential to establishing a good physician-patient relationship.[24] This allows the patient to make an informed decision on whether to proceed with an elective surgery such as tonsillectomy and establishes clear expectations to postoperative outcomes. Also, documentation of informed consent in the patient's note, instead of just a signed surgical consent form, is associated with a significantly decreased indemnity risk.[25] A majority of patients who have postoperative complications do not pursue legal action.[26] Communicating with patients who experience a complication can help improve the physician-patient relationship and reduce exposure to a malpractice claim.[27] When a complication does occur, patients who experience good communication with their provider tend to perceive a no-fault event rather than assigning malicious intent or incompetence to the surgeon.[28]

CONCLUSION

Tonsillectomy continues to be a procedure that carries a relatively large amount of risk from a medicolegal and patient-care standpoint. There are multiple complications both intraoperatively and postoperatively that may expose the surgeon to a malpractice claim, and more importantly, lead to increased morbidity for the patient. Postoperative bleeding is the complication that is most commonly associated with malpractice claims but may not carry the greatest overall risk with respect to settlements or judgments. In contradistinction, anoxic and hypoxic events, although less common, are much more costly when the subject of a medical malpractice claim. Mortality from these complications continues to be a rare but a real possibility, and the otolaryngologist should be vigilant in all aspects of patient care to avoid them.

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