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Medicolegal analysis of 100 malpractice claims against bariatric surgeons

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Abstract

Background: Very few studies have addressed malpractice litigation specific to bariatric surgery. This study was designed to analyze litigation trends in bariatric surgery to prevent further lawsuits and improve patient care.

Methods: A total of 100 consecutive bariatric lawsuits were reviewed by a consortium of experienced bariatric surgeons and an attorney specializing in medical malpractice.

Results: Of the 100 lawsuits, 45% were reviewed for defense attorneys. The mean patient age was 40 years (range 18–65), 75% were women, 81% had a body mass index of <60, 31% were diabetic, and 38% had sleep apnea. Of the surgeons, 42% had <1 year of experience, and 26% had done <100 cases. Although 69% of the physicians were members of the American Society of Bariatric Surgery, only 22% had detailed consent forms. The surgical procedures were performed between 1997 and 2005 and included Roux-en-Y gastric bypass (78% total, 33% open, and 45% laparoscopic), vertical banded gastroplasty (3%), mini gastric bypass (6%), biliopancreatic diversion/duodenal switch (4%), and revision (9%). Of the 100 cases, 32% involved an intraoperative complication and 72% required additional surgery. The most common adverse events initiating litigation were leaks (53%), intra-abdominal abscess (33%), bowel obstruction (18%), major airway events (10%), organ injury (10%), and pulmonary embolism (8%). From these injuries, 53 patients died, 28% had a full recovery, 12% had a minor disability, and 7% had major disabilities. Evidence of potential negligence was found in 28% of cases. Of these cases, 82% resulted from a delay in diagnosis and 64% from misinterpreted vital signs.

Conclusions: This study found that leaks and delayed diagnosis were the most common cause of litigation. Even experienced bariatric surgeons should understand the most common errors made by others to prevent complications and avoid litigation. (Surg Obes Relat Dis 2007;3:60–67.) © 2007 American Society for Bariatric Surgery. All rights reserved.

Keywords: Malpractice; Gastric bypass; Lawsuit; Morbid obesity; Surgery; Bariatric surgery

Although malpractice litigation involves all specialties in medicine, certain specialties, such as neurosurgery, obstetrics, pediatrics, cardiology, and cardiac surgery, appear to carry the brunt of malpractice litigation. Bariatric surgery is also generally perceived as a high-liability risk specialty because complications that precipitate lawsuits are thought
more likely to occur in severely obese patients for many reasons. Severe obesity patients typically have severe co-morbidities that predispose to complications [1-4]. The operations are complex, containing significant potential for technical failure. Timely diagnosis and recognition of complications can be delayed by the confounding physical attributes of the severely obese patient. Diagnostic equipment such as computed tomography scanners are often unavailable because few are able to accommodate patients of significant weight. Inadequate surgeon training, a byproduct of rapid growth and high demand during the past 8-10 years, has also been incriminated as a factor leading to increased complications [5]. Yet, despite bariatric surgery existing under the public microscope for the past 5 years, very few studies regarding medical malpractice in bariatric surgery have been published [6].

The intent of the present study was to acquire information from a significant number of bariatric surgery malpractice claims to form the basis for strategies to prevent complications, reduce malpractice litigation, and, most importantly, improve patient care. The specific aim was to characterize malpractice claims in bariatric surgery with respect to the type of complications leading to a lawsuit and the type of alleged errors by the surgeon, physicians, hospital staff, and/or hospital administration. We (representing a consortium of experienced bariatric surgeons and an attorney experienced in bariatric surgery malpractice) also attempted to identify patient or surgeon factors that could have contributed to the filing of the suit.

Methods

The members of a consortium of experienced bariatric surgeons reviewed 100 consecutive legal cases that were referred by plaintiff or defense counsel for expert opinion regarding negligence on behalf of the treating physicians or the treating hospital. Each expert possessed >5 years of experience in bariatric surgery and/or had had completed >1000 bariatric operations. Case data related to patient (plaintiff) demographics, surgeon characteristics (training, experience), the alleged complications, alleged errors, patient outcome, and potential of negligence were collected from the medical records and depositions supplied by plaintiff and defense council. The data were entered into a database (Excel, Microsoft, Seattle, WA) and then analyzed to determine the most common types of complications, errors, and negligence, as well as the potential of negligence. The occurrence of negligence was determined by the presence of four conditions, all of which must have been present: (1) duty to treat, (2) occurrence of harm, (3) breach in standard of care management, and (4) causality (i.e., a breach in the standard of care more probably than not caused the harm). At submission of this report, the final legal outcomes (dismissal, settlement, jury decision) were available for only a minority of cases; thus, the final case disposition data have not been presented.

Results

General

All cases reviewed occurred in 25 states, including Pennsylvania, West Virginia, Utah, Michigan, Georgia, Texas, Rhode Island, Nebraska, Missouri, Virginia, North and South Carolina, Florida, Maryland, Montana, Iowa, Illinois, Washington DC, New York, New Jersey, Ohio, Colorado, California, Oregon, and Washington, from June 1997 to February 2005. The mean interval time between the incident and the expert review was 25 months. Of the 100 cases, 55% were referred by plaintiff attorneys and 45% by defense attorneys. In 94 cases, the primary surgeon was the main party of the suit; some suits specifically targeted other parties such as other surgeons (associates and covering surgeons; 15%), nonsurgeons, including medical specialists and radiologists (11%), nursing staff (5%), other caregivers (3%), and resident trainees (4%). In 45% of the suits, the hospital was generally targeted.

Roux-en-Y gastric bypass (RYGB) was the most common surgical procedure (78%) performed. Of these, 45% were laparoscopic RYGB and 33% were open RYGB (Fig. 1). The remainder included "minigastric bypass" (6%), biliopancreatic diversion/duodenal switch (4%), vertical banded gastroplasty (VBG) (3%), and revisional bariatric operations (VBG to RYGB; 9%). Minigastric bypass is a laparoscopic gastric bypass procedure using a long narrow gastric pouch with a loop gastrojejunostomy [7,8].

![Types of Operations (N=100)](image)

Fig. 1. Breakdown of bariatric litigation cases by procedure type with laparoscopic gastric bypass (Lap GBP) and open gastric bypass (open GBP) representing 78% of reviewed cases. BPD-DS = biliopancreatic diversion/duodenal switch; VBG = vertical banded gastroplasty.
Fig. 2. Intestinal leaks (53%) represented most common adverse patient event initiating litigation, followed by intra-abdominal abscess (33%), bowel obstruction (18%), airway events (10%), organ injury (10%), and pulmonary embolism (8%).

Patient (plaintiff) and surgeon (defense) characteristics

The mean patient age was 40 years (range 18–65), 75% were women, 81% had a body mass index of <60, 31% were diabetic, and 38% had sleep apnea. Of the primary surgeons, 42% had <1 year of experience performing bariatric operations, 26% had performed <100 cases, and 38% of surgeons had performed >300 cases. For 69% of the surgeons, a general surgery residency was their only formal training; 29 surgeons had completed fellowships (laparoscopic and/or bariatric surgery) and 2 had completed a focused 4–6-week training experience in laparoscopic bariatric surgery.

Complications (incidents)

The most common adverse patient events initiating litigation were intestinal leak (53%), intra-abdominal abscesses (33%), bowel obstruction (18%), major airway events (18%), organ injury (10%), and pulmonary embolism (8%; Fig. 2). Of the events that initiated litigation, 69% had occurred on the day of operation, 32% had occurred intraoperatively, 8% had occurred on postoperative day 1–3, and 23% had occurred within a wide range (postoperative days 4–192). The overall outcomes in this series of 100 legal cases were death (53%), major disability (7%), minor disability (12%), and near full recovery (28%; Fig. 3).

In 52 cases, direct evidence was found of an intestinal leak after laparoscopic RYGB (52%), open RYGB (30%), and VBG or revisions (18%) that was identified, on average, 4.9 ± 4.2 days (range 0–18) after surgery. The most common site was the gastrojejunostomy or gastric pouch (44%), followed by jejunoojejunostomy (18%), gastric remnant (18%), duodenum (8%), and other, including the stomach during VBG, or various sites of the small intestine (12%). The dominant allegation of negligence was a delay in diagnosis (60%). A slight majority of primary surgeons (54%) involved with the leaks had <1 year of experience in bariatric surgery. The patient outcomes included death (60%), disability (22%), and full recovery (28%).

Intra-abdominal abscess was the second most common complication (33%) in this series and was identified, on average, 12 days (range 3–192) after surgery. The source or cause of the abscess was rarely identified but was presumed to be a leak in most cases. Similar to leaks, the dominant allegation of negligence was a delay in diagnosis (60%). Similarly, 58% resulted in death, 12% in disability, and 30% in full recovery.

Intestinal obstruction (18%) was the third most common complication, occurring on average 6.3 days (range 1–84) after surgery. Bowel obstruction was commonly associated with other complications, including intestinal leaks (28%) and aspiration (17%). Five of the obstructions resulted from internal hernias, including four at the jejunoojejunostomy mesenteric defect and one at Peterson's defect. Four obstructions resulted from the mistaken attachment of the biliopancreatic limb to the gastric pouch and attachment of the distal limb in an end-to-side fashion to the biliopancreatic limb, so-called Roux-en-O. In addition, two obstructions resulted from bowel herniation at ventral hernia sites that were not repaired at the original operation and two obstructions resulted from bowel herniation at port sites that were not closed at the original procedure. Negligence was thought to be potentially present in 33% of the intestinal obstructions cases. A delay in diagnosis was the most common cause of alleged negligence (61%). Patient outcomes included death (39%), disability (28%), and full recovery (33%).

Pulmonary and airway events occurred in 10% and included aspiration and endotracheal tube dislodgement. Most of the pulmonary-related events, especially aspiration, resulted from primary complications such as anastomotic leak (n = 3), bowel obstruction (n = 5), missed enterotomy (n = 1), and oversedation (n = 1). Potential negligence was thought to be present in 50%. The mortality rate was high, with 70% resulting in death, 10% in disability, and 20% in full recovery.

Fig. 3. Overall outcomes of 100 legal cases. Death resulted in 53% of cases, major disability in 7%, minor disability in 12%, and near-full recovery in 28% of reviewed cases.
Organ injury accounted for 10% of claims and 40% occurred intraoperatively. Most of the surgeons (80%) with patients with organ injury were experienced, having performed >100 cases. Most of the cases (80%) of organ injury were managed by a surgeon other than the primary surgeon. The specific injuries included missed enterotomies (small bowel in 3, esophagus in 1, and stomach in 1), small bowel ischemia requiring resection (n = 2), spleen injury (n = 2), and pancreas injury (n = 1). Of the organ injuries, 90% required reoperation for diagnosis and repair. Potential negligence was present in 30%. Patient outcomes for organ injury included death (30%), disability (40%), and full recovery (30%).

Pulmonary embolism occurred in 8 patients in this series an average of 8 days (range 3–16) after surgery. Of these 8 patients, 50% had a body mass index >60 kg/m², and 50% of the pulmonary emboli occurred in association with an anastomotic leak. All claims of negligence were related to a delay in diagnosis and inadequate prophylaxis. Potential negligence was thought to be present in 38% of the cases reviewed. Although the least common of the major complications in this series, pulmonary embolism had the greatest mortality rate (88%), and only 1 of the 8 patients recovered.

"Dropped baton phenomenon"

In 15% of the cases, it was noted that the primary surgeon had left town or transferred coverage immediately before the occurrence of a complication. In each case, it was noted that a delay in diagnosis and treatment occurred and was thought to be related either to poor communication between surgeons and/or inadequate training or familiarity on the part of the covering surgeon. This phenomenon has been likened to runners at relay race who fumble the transfer of the baton, resulting in a dropped baton, which almost always brings defeat—hence the term "dropped baton."

Other potential precipitating factors

Although in none of the cases was the lack of informed consent a primary allegation, only 22% of the cases had detailed, bariatric-specific, consent forms. Patients were noncompliant with perioperative management recommendations in 23% of cases, but in only 19% of these cases did the noncompliance have a perceived effect on the patient outcome. The patients’ dietary habits potentially contributed to complications in 7% of the cases. Twelve percent of the patients were noncompliant in adhering to return visits for follow-up. In 2 cases, unconfirmed fraudulent billing was alleged and may have been a factor precipitating the lawsuit. Finally, 15% of the charts reviewed had inappropriate documentation by the staff or attending surgeon.

Negligence

In the opinion of the expert reviewers, evidence of potential negligence was found in 28% of the 100 legal cases. The designation of potential negligence, as opposed to negligence, was preferred by us, because many of the cases had not yet completed discovery or gone to trial. The most common cause of negligence was considered to be a delay in diagnosis of an intestinal leak or abscess (82%). In the vast majority of cases involving a delay in diagnosis, misinterpretation of vital signs (64%) was the most common surgeon error. Most notable was the error in failing to recognize sustained tachycardia as an early sign of peritonitis. The misinterpretation of other studies, including upper gastrointestinal contrast studies, abdominal computed tomography, and chest radiography, accounted for the remainder. A technical error in the performance of the operation was noted in only 8% of the cases.

Discussion

Medical malpractice litigation pertaining to bariatric surgery is not new and has been around since the first bariatric procedures were performed in the 1950s. Recently, however, the bariatric surgery community has experienced an increased interest in the subject of bariatric medical malpractice. Coincident with the recent rise in bariatric surgery to >100,000 cases/yr in the United States, much speculation has been present in the legal and lay press regarding increased rates of bariatric surgery lawsuits and increased malpractice insurance premiums [9–11]. Whether an increase in lawsuits disproportionate to the increase in bariatric surgery cases has occurred remains unclear. Furthermore, the justification for increased malpractice premiums has also been debated [12]. Nevertheless, despite intense speculation, relatively little information exists in medical reports that have described the basic characteristics of bariatric surgery medical malpractice cases.

In one of the few recent studies of bariatric surgery medical malpractice, Casey et al. [6], in 1999, surveyed members of the American Society of Bariatric Surgery to determine the rate of lawsuits, as well as information pertaining to the types of complications, claims of negligence, and legal outcomes of the suits. Of the 165 members from 33 states, 58% responded and reported 107 malpractice suits, yielding a rate of approximately 1.6 suits/1000 bariatric surgery cases. Of the 71 legal cases that had resolved, 19 (27%) had been settled or reached a jury verdict on behalf of the plaintiff for an average award of $88,667. Gastric bypass (50%) and VBG (30%) were the most common operations involved in the lawsuits, with the remainder comprised of a mixture of malabsorption and revisional procedures. None of the operations had been performed laparoscopically, because this was before the laparoscopic era of bariatric surgery. The most common reasons for the lawsuits were "pain and suffering" (31%), death (19%), unsatisfactory result (18%), and infection/leak (18%). The most common complications cited were anastomotic problems (36%), death (21%), "operative misadventure" (13%),
Casey et al. [6] yet represented the second most common complication (18%) in our series. This is likely because the study by Casey et al. [6] occurred before the laparoscopic era and involved only open bariatric operations, which are thought to have a lower rate of bowel obstructions compared with surgeons' early learning experience with laparoscopic gastric bypass. Furthermore, bowel obstructions after laparoscopic gastric bypass are more often a result of herniation of bowel at the mesenteric window sites (transverse mesocolon, jejunjejunalostomy, and Peterson’s defect) [14–16]. The increased frequency could be related to non-closure of the defect during laparoscopic gastric bypass or the lack of early adhesions after laparoscopy, which could retard bowel herniation by causing bowel to “stick” together.

Lawsuits are more likely to occur with poor outcomes. Thus, it is not surprising we found a mortality rate of 53%. Somewhat surprising was that 28% of patients had full or near-full recovery, suggesting that factors other than the outcome, such as the pain and suffering of recovery, patient-physician relationship, secondary gain, and financial concerns, might have motivated the patients to sue.

In our series, the evidence to support a claim of negligence on the part of the primary surgeon was recognized in 28% of cases. The most common potential cause of negligence was the failure to timely diagnose a complication, whether a leak, obstruction, injury, or pulmonary embolus. Other potential errors such as the lack of informed consent, inappropriate candidate for bariatric surgery, inadequate preoperative evaluation, error in surgical technique, and inappropriate treatment of the complication were exceedingly uncommon. In contrast, the survey results in the study by Casey et al. [6] indicated that error in technique, “act of God,” infection, and error in judgment were the most common cause of a complication, and in only 2% of cases was there a delay in diagnosis. This major discrepancy suggests that either the cause of negligence has dramatically changed in the past 10 years or surgeons’ understanding of the causes of negligence is not on par with reality. We suspect the latter is more likely than the former.

In this series, failure to recognize the early signs of an intestinal leak represented the single most common surgeon error and accounted for most of the error in these 100 cases that led to significant mortality and morbidity. Early signs and symptoms of an intestinal leak after bariatric surgery have been well described in published reports and include sustained tachycardia, tachypnea, shortness of breath, fever, oliguria, leukocytosis, and abdominal pain [17–19]. Less commonly, a patient may have severe abdominal pain, shoulder pain, back pain, or hiccups. Severe tachycardia, high fever, peritoneal signs, hypotension, and anuria are late signs and symptoms suggesting severe peritonitis, organ failure, and a low probability of survival. Of all these signs and symptoms, sustained tachycardia (heart rate >120 bpm) is the most sensitive sign of an intestinal leak. Many experienced surgeons have advocated that sustained tachycardia after bariatric surgery is “a leak until proven otherwise” and warrants additional investigation to rule out a leak, such as abdominal imaging or surgical intervention. Surgical intervention, including diagnostic laparoscopy or laparotomy, is the most sensitive diagnostic, and often therapeutic, intervention. In this series, many patients endured many hours and, in some cases, days of tachycardia without diagnostic or therapeutic intervention to rule out a leak. Many of the lawsuits and, indeed, the morbidity and mortality in this series could have been avoided if the primary surgeon and/or managing team had recognized the early signs of a leak. Notably absent from this relatively small study was any lawsuit claiming negligence for unnecessarily performing diagnostic laparotomy when a leak was not present.

Although recognized by many as common knowledge, we believe this study is the first to document management error in bariatric surgery resulting from, or related to, the transfer of care from 1 physician to another. In a significant 15% of the cases, an error, usually in recognizing a complication, occurred shortly after a receiving surgeon took over the care of the patient. In many cases, the receiving surgeon had minimal experience in bariatric surgery. Typically, the primary surgeon had left town and passed the care on to a surgeon “on call” without significant communication of the status of the compromised patient. This type of error, “dropping the baton,” can be avoided by proper communication with a receiving surgeon who has an appropriate knowledge of bariatric surgery and its perioperative management.

This study contained several limitations. First, this series was not necessarily reflective of bariatric surgery in the United States during 1997 to 2005. The case mix, including laparoscopic versus openRYGB versus laparoscopic adjustable gastric banding (LAGB) versus bilipancreatic diversion, might have been more reflective of the reviewing surgeon’s expertise and not the frequency of these operations in the community at large. For instance, none of the lawsuits involved LAGB even though LAGB is now commonly performed in the United States. This does not imply that LAGB is or is not subject to lawsuits; it was simply not among the 100 cases reviewed in this series. This is not surprising, especially because LAGB was not introduced into the United States until 2001, after Food and Drug Administration approval. Second, the standard of care for bariatric surgery management is without clear evidence-based assessment in many areas of operative and perioperative management; therefore, the assessment of negligence by us was, in many cases, subjective. Furthermore, our opinions may not necessarily represent those of the bariatric surgery community as a whole or of the American Society of Bariatric Surgery. Finally, as stated previously, the final legal outcome of many of the cases remained undetermined and thus the final legal outcomes could not be reported.
Conclusion

The most common complications of bariatric surgery leading to lawsuits in this study included leak, abscess, obstruction, pulmonary/airway complications, organ injury, and pulmonary emboli. Most of the lawsuits (72%) in this study contained no evidence of negligence on the part of the treating surgeon. The prevention of leaks and their timely diagnosis and treatment is the single most important strategy to improve patient outcomes and prevent malpractice lawsuits related to bariatric surgery. To improve patient care and reduce lawsuits, we recommend that surgeons develop specific strategies to prevent, diagnose, and treat the most common serious complications of bariatric surgery.

Disclosures

The authors have no commercial associations that might be a conflict of interest in relation to this article.

References


Editorial comment

Review and analysis of complications in surgical care is a time-tested instructional method used in most surgical training programs in the format of the morbidity and mortality conference. Errors in judgment, diagnosis, and surgical decision making provide valuable lessons when dissected and discussed after the event. Similarly, review of malpractice claims can be a valuable learning tool. The knowledge gained can hopefully be used to reduce complications and thereby improve patient care.

The American Society of Anesthesiologists Closed Claims Project has helped to identify important anesthetic complications and mechanisms of injury, resulting in changes in practice with a subsequent decrease in severity of injury in anesthesia malpractice claims [1]. This has been credited with a stabilization of liability insurance premiums in that specialty.

This analysis of 100 malpractice claims against bariatric surgeons shows the potential benefit of using lawsuits as a learning tool. Some findings were not surprising, such as identification of leaks and abscesses as the most common complications resulting in a claim, with delay in diagnosis and management as the most common allegation of negligence. The fact that lack of informed consent and technical error were not primary allegations in any of the cases was less expected, perhaps explained by sampling error or by the fact that plaintiff attorneys feel these are more difficult allegations to prove to a jury.

The authors, as impartial experts, felt there was potential negligence in 28% of the reviewed cases. It would be informative to ultimately report the outcome of these suits. In our current malpractice climate, it would not be surprising to find that many of the cases with no perceived negligence are settled before trial due to fears of high defense expense or excessive jury awards.