Comparing 20 years of national general surgery malpractice claims data: obesity versus morbid obesity

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KEYWORDS: Obesity; Morbid obesity; General surgery malpractice

Abstract

BACKGROUND: We hypothesized that the increasing body mass index of the population has affected general surgery malpractice claims.

METHODS: We queried the Physician Insurers Association of America database from 1990 to 1999 (ie, period 1) and 2000 to 2009 (ie, period 2) for claims associated with obesity and morbid obesity. We analyzed the error involved, injury severity, procedure, and outcome.

RESULTS: Five hundred seventy-five claims were identified. The percentage of paid claims did not differ by body mass index. Improper performance was the most common alleged error, gastric bypass was the most common procedure, and death was the most common injury. For obesity claims, the case was more likely to be settled in period 1 and withdrawn/dismissed in period 2 ($P < .001$). The number of morbid obesity claims rose from 9 in period 1 to 249 in period 2.

CONCLUSIONS: The significant rise in morbid obesity claims between periods is likely caused by the substantial increase in the number of bariatric procedures performed.

The prevalence of obesity and morbid obesity has increased dramatically in the United States over the last 30 to 40 years. Currently, approximately 66% of adults are overweight or obese. More specifically, 33% of adults are obese with a body mass index (BMI) greater than 30, and 6% (~15 million) are morbidly obese (ie, BMI >35).1–3 Furthermore, it is estimated that by 2015 more than 75% of US adults will be overweight.

Obese patients have various medical problems including but not limited to decreased functional residual capacity and vital capacity, impaired glucose metabolism, diastolic ventricular dysfunction, elevated systemic blood pressure, tissue hypoperfusion, and dyslipidemia. Additionally, they are at an increased rate for thromboembolic events, cancer, infertility, and liver and gallbladder disease.1–3 When considering a patient for surgery, those who are obese or morbidly obese are considered higher-risk patients because of these physiologic changes associated with obesity. Multiple studies have looked at whether or not postoperative complications occur more frequently in this class of patients undergoing general surgical procedures and have found mixed results. For example, a retrospective study conducted using the Veterans Affairs Surgical Quality and Improvement Program compared postoperative complications after 4,881 intestinal surgeries. They reported that patients with a BMI >40 were most likely to have a postoperative complication and were 1.4 times more likely to develop a complication compared with patients with a normal BMI ($P = .04$). Patients with a BMI of 30 to 40 were 1.21 times more likely to develop a complication compared with...
For each claim, the database identifies the alleged error or “medical misadventure” central to the claim. These “medical misadventures” fall into 1 of 19 errors that are globally classified as errors of diagnosis, treatment, procedure performance, supervision, or timeliness. Additionally, the severity of injury is classified according to the National Association of Insurance Commissioners Severity index as emotional injury; insignificant injury minor or major temporary injury; minor, significant, or major permanent injury; grave injury; or death. For general surgery data, the procedure associated with the claim is recorded also. The database also records whether the resolution of the claim went in favor of the plaintiff or the defendant surgeon or if it was withdrawn, dismissed, or settled. Finally, the database records the indemnity payments associated with each error, injury severity, procedure, and type of resolution. According to the DSP, the total indemnity since its inception totals over US $12.5 billion.5

The study was performed with institutional review board approval. Statistical analysis was performed using the chi-square test function in Excel (Microsoft, Seattle, WA). A P value < .05 was considered statistically significant.

Results

For the 20- year period between 1990 and 2009, there were 575 closed general surgery claims associated with either obesity or morbid obesity in the PIAA database. For period 1 (ie, 1990 to 1999), we identified 198 claims; 189 were associated with the ICD-9 code for obesity, and 9 were associated with the ICD-9 code for morbid obesity. For period 2 (ie, 2000 to 2009), we identified 377 claims; 128 were associated with ICD-9 code for obesity, and 249 were associated with the ICD-9 code for morbid obesity.

In period 1, the percentage of paid general surgery obesity claims was 69%. The total indemnity of those 131 paid claims was US $12.4 million, with an average of US $94,526 per claim. With regards to the general surgery morbid obesity claims, 5 of the 9 claims (56%) were paid. Because the number of claims was small, the total indemnity was only US $720,884, with an average of US $114,177 per claim. The percentage of paid claims between obesity and morbid obesity (69% and 56%, respectively) did not differ significantly within period 1. The lack of statistical significance between obesity and morbid obesity may be because of the low number of claims associated with morbid obesity (Table 1).

In period 2, the percentage of paid obesity claims was 38%. The total indemnity of those 48 paid claims was US $18.1 million, with an average of US $377,151 per claim. With regards to morbid obesity, 35% of plaintiffs received an indemnity payment for a total of US $32.3 million, with an average payment of US $366,695. Similar to period 1, the percentage of paid claims did not differ between obesity and morbid obesity in period 2 (38% and 35%, respectively; Table 1).
The most common alleged error reported by the plaintiff in both time periods and in both BMI groups was improper performance by the general surgeon (Table 1). In period 1, 145 (77%) of the obesity claims and 7 (78%) of the morbid obesity claims were filed on the basis of improper performance. In period 2, 38 (30%) of the obesity claims and 123 (49%) of the morbid obesity claims were filed for improper performance. Of note, in period 2 obesity claims, the failure to recognize a complication of treatment and no proper performance were the second most common procedures in obesity claims in period 1.

Gastric bypass was the most common procedure in general surgery morbid obesity claims (56%) (Table 1). Operative procedures of the stomach were the most common procedures associated with improper performance between periods, but again this could be because of the low number of morbid obesity claims in period 1.

In period 1, 50% of the morbid obesity claims were filed for improper performance by the general surgeon (Table 1). Operative procedures of the stomach were the most common procedures associated with general surgery morbid obesity claims in period 1 (50%) (Table 1).

Overall, few claims went to trial (Table 1). Of the 575 general surgery claims identified, only 43 (7.5%) were taken to trial (7 obesity claims from period 1, 9 obesity claims from period 2, and 27 morbid obesity claims from period 2). Of the cases that went to trial, the majority received a verdict in favor of the defendant surgeon (81%). A large proportion of the claims ended with a settlement between the plaintiff and defendant (245 [43%]). More specifically, 130 (69%) of the obesity claims in period 1, 5 (56%) of the morbid obesity claims in period 1, 37 (29%) of the obesity claims in period 2, and 73 (29%) of the morbid obesity claims were settled. Thus, for general surgery obesity claims, settlement was more likely in period 1 than in period 2 (P < .001). There was no statistical difference in the number of settled morbid obesity claims between periods. Finally, a slightly larger proportion of the total claims were either withdrawn or dismissed (253 [44%]). Once again, there was no statistical difference in the number of morbid obesity claims that were withdrawn or dismissed between periods (44% vs 51%). However, general surgery obesity claims were more likely to be withdrawn or dismissed in period 2 than in period 1 (55% vs 28%, P < .001).

### Comments

In 2004, Bariatric Surgery Centers of Excellence (BSCOE) were created, and the initial support was strong. To be a certified BSCOE, the institution has to meet the following criteria: requirements for bariatric equipment, designated bariatric surgical wards, immediate availability of critical care and other specialists, establishment of a registry to monitor patient outcomes, performance of a
minimum volume of bariatric surgery procedures at the surgeon and hospital level, provision of nursing Continued Medical Education (CME) and clinical pathways, and the presence of strong surgical leadership. However, the designation of a BSCOE, which primarily implies a high-volume center, has not yet proven to be associated with fewer complications or better outcomes in bariatric surgery patients. In fact, the Michigan Bariatric Surgery Collaborative published a study in 2011 looking at bariatric surgeries performed in their state. Their results showed that although the serious complication rates associated with bariatric surgery have declined, the decline did not correlate with BSCOE status. In response to this study and others, the American Society for Metabolic and Bariatric Surgery, the Surgical Review Corporation, and the American College of Surgeons have begun to reevaluate the BSCOE designation. The current thought is that volume alone is not the only parameter that affects quality, but rather a hospital should be considered a Center of Excellence based on many quality parameters, which would likely include, among many others, physician feedback and the development of best practices based on regional outcome data.

When considering our finding that gastric bypass is the most commonly litigated procedure among obese and morbidly obese patients, it is important to recognize the trends in bariatric surgery over the last several decades. In the early 1990s, before the introduction of laparoscopic surgery and the start of the obesity epidemic, the number of bariatric surgeries performed annually was about 16,000. The late 1990s and early 2000s saw a dramatic rise in the number of bariatric surgeries performed. In 2004, the estimated annual rate was just over 100,000. Despite predictions that this rate would continue to grow exponentially, it appears that the number of bariatric surgeries performed in the United States has actually plateaued around 120,000 to 130,000 since 2004. Thus, although our two 10-year time periods were not initially chosen to correlate with any significant change in bariatric surgery, it is obvious that bariatric surgery and obesity as a whole have evolved substantially during our 2 time periods.

Our study found that death was the most common injury for which a claim was filed. We do not intend to imply that bariatric surgery frequently results in death. In fact, the mortality from bariatric surgery is actually much less than 1%. On the other hand, because death is the most severe form of injury that can be incurred, it is likely that litigation is filed at a higher percentage when death is the outcome compared with other less severe injuries. Also, the data do not detail what procedures from which the patients died. Thus, many of the deaths could have been from other general surgical procedures.

Finally, our study identified improper performance as the most common alleged error associated with obesity and morbid obesity general surgery malpractice claims. From our understanding of the database, this means that the patient or patient’s representative filed a claim based on a technical error made by the surgeon during the performance of the procedure. Other surgical- or procedural-oriented medical specialties including ophthalmology and dentistry also have identified improper performance as the most common alleged claim when they search the PIAA database.

There are several limitations to our study and to all studies using a data registry as the source of information. For example, the PIAA DSP does not provide information with regard to the number of general surgeons represented by the 23 MPLs that submit malpractice claim information to PIAA. Thus, we were unable to calculate the incidence or the average number of claims filed per surgeon. Therefore, although 575 claims were identified in our study, we do not know if this represents hundreds or thousands of surgeons. Also, the surgeons covered by the MPLs that report to PIAA are all private practice physicians; thus, no litigation information about physicians employed by academic centers is included in this study. In addition, although PIAA is made up of 60 MPLs, only 23 (38%) submit information to the DSP, so there is potential bias from the low reporting rate. Therefore, it is impossible to say whether or not the results from our study are generalizable to all general surgeons in the United States. Finally, the database does not provide information about what proportion of the PIAA database is comprised of physicians employed by a hospital with the designation of a BSCOE.

Conclusions

Our study of the PIAA database identified a total of 575 general surgery claims associated with obesity or morbid obesity over two 10-year periods. We found that the percentage of paid claims did not differ between periods or BMI class. Gastric bypass was the most commonly litigated procedure, and death was the most common injury for which a claim was filed. Finally, likely as a result of the increased rate of bariatric procedures performed during this 20-year period, the number of morbid obesity claims rose significantly between periods 1 and 2.

References

Discussion

David Schneider, M.D., M.S. (Madison, WI): I would like to congratulate Dr. Weber and her colleagues from Loyola on a very interesting article and presentation examining malpractice insurance claims related to obesity surgery. I just have 3 questions. The data were divided into 2 periods; I think it was 1990 to 1999 and then 2000 to 2009. I was wondering how you arrived at those divisions? Does the time point have any significance in terms of the evolution of bariatric surgery, obesity trends, or tort reform? Second, in the article you discussed and you alluded to this at the end about BSCOEs. Do you know what portion in this database are claims from BSCOEs, and what portion of the PIA database is comprised of Centers of Excellence? Were there any differences in the number of claims? Finally, liability companies associated with PIA insure about 60% of private practice physicians, and only 23 of the 60 insurance companies submit data to the database that you were using, so is this sample representative and generalizable?

Cynthia Weber, M.D. (Maywood, IL): The 2 time periods were chosen just as 2 individual decades. They were not chosen with regards to any specific changes in bariatric surgery or in tort reform. In terms of the second question, my understanding is that the companies that submit to PIA are private practice and, thus, are generally not associated with large academic centers. They do not tell us anything about where they are geographically located or if they are associated with BSCOEs. I think that would be something good to know because if 23 of the 60 that report are different than the other 37, there may be some errors in selection bias.

Arthur Carlin, M.D. (Detroit, MI): I think those time periods are extremely important because that is when, pretty much, the evolution of laparoscopic bariatric surgery occurred, and so the number of cases went up dramatically throughout the country; therefore, I think that may play a role. The reason why I bring that up is because it has been well shown that laparoscopic bariatric surgery has a significant reduction in the complication rate. I think the incidence of complications going down and the malpractice maybe going up is just based on the denominator of the cases. The second thing is, with Centers of Excellence in Michigan, we showed this in Michigan and we published this a couple years ago that regardless if you are a Center of Excellence or non–Center of Excellence, you have to show a difference in complication rates across the state of Michigan. This is actually kind of relevant currently because there is an evolution now looking at changing our Centers of Excellence titles and going to more of a national quality program.