Insurance-mandated medical programs before bariatric surgery: do good things come to those who wait?

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Abstract

Background: Insurance companies often require a mandated medical program (MMP) before bariatric surgery. It is unknown whether MMPs improve weight loss before and after surgery. The purpose of our study was to determine whether MMPs improve pre- and postoperative weight loss at a tertiary care, U.S. academic teaching hospital.

Methods: After institutional review board approval, data were collected prospectively from consecutive patients undergoing nonrevisional laparoscopic gastric bypass or adjustable gastric banding from August 2006 to 2010 by a single surgeon (T.S.K.). The patients were divided into 2 groups: those undergoing a MMP and those who did not. The MMP patients underwent a standardized program of ≥6 months’ duration under the direction of our medical bariatricians and nutritionists. The data from the laparoscopic gastric bypass and laparoscopic adjustable gastric banding patients were analyzed separately. The primary outcome data included the interval to surgery and the percentage of excess weight loss before surgery and at 6 and 12 months after surgery.

Results: A total of 440 patients (327 laparoscopic gastric bypass and 113 laparoscopic adjustable gastric banding) were included in the present study. No significant difference was found in the preoperative percentage of excess weight loss or the percentage of excess weight loss at 6 and 12 months after surgery between the MMP and non-MMP patients. The MMP patients had a significantly longer wait time to surgery.

Conclusion: Patients who underwent a standardized MMP had a significant delay in their time to surgery and did not experience significant benefit in their preoperative or postoperative weight loss. Insurance companies should abandon the policy of mandating preoperative medical weight loss programs. (Surg Obes Relat Dis 2011;7:526 –530.) © 2011 American Society for Metabolic and Bariatric Surgery. All rights reserved.

Keywords: Gastric bypass; Adjustable gastric band; Health care insurance; Weight loss

Obesity is a major health issue in the United States. According to the National Health and Nutrition Examination Survey, in 2007, the prevalence of morbid obesity in the United States was 20% [1]; exceeding the prevalence of congestive heart failure, coronary heart disease, and diabetes mellitus combined [2]. In addition, morbid obesity has a wide range of deleterious effects and has been directly linked to serious health conditions, including type 2 diabetes mellitus, hypertension, and sleep apnea [3,4].

Bariatric surgery is the most effective treatment of morbid obesity, with many patients losing >50% of their excess weight [5,6]. Studies have also shown that bariatric surgery can improve or resolve many obesity-related co-morbidities.
Bariatric surgery is not only highly effective, but is also relatively safe compared with other commonly performed elective procedures. A prospective analysis of patients undergoing bariatric surgery performed at 10 hospitals in the United States showed a 30-day mortality rate of only .3% and a morbidity rate of 4.3% [8]. In contrast, the 30-day mortality rate for laparoscopic cholecystectomy, colorectal surgery, total hip arthroplasty, and coronary artery bypass grafting has been reported at .5%, 3.9%, 1.2%, and 4.7%, respectively [9–12].

In 1991, a National Institutes of Health consensus conference on obesity developed criteria for bariatric surgery [13]. To qualify for surgery, a patient needed to be morbidly obese, “motivated,” and an acceptable operative risk. In 2005, the American Society for Metabolic and Bariatric Surgery revised the National Institutes of Health recommendations and stated that patients should “... have attempted to lose weight by nonoperative means ...” However, they also specifically stated that patients “should not be required to have completed formal nonoperative obesity therapy as a precondition for the operation.” [14].

Despite the proven benefits and safety of bariatric surgery, most states have not required a “core benefit” designation for bariatric surgery, limiting patient access to the surgery. The insurance policies that cover bariatric surgery often require a mandated medical program (MMP) before approving weight loss surgery. The rationale and efficacy of MMPs are questionable, with several investigators suggesting that MMPs have no beneficial effect on weight loss after bariatric surgery [15,16]. Furthermore, evidence has shown that MMPs can increase patient attrition before surgery without improving their preoperative weight loss [15]. The present study was designed to examine the effect of MMPs on pre- and postoperative weight loss for patients undergoing either laparoscopic Roux-en-Y gastric bypass (LRYGB) or laparoscopic adjustable gastric bypass (LAGB) and to determine the degree to which MMPs delay surgery.

Methods

After institutional review board approval, we analyzed prospectively collected data from consecutive patients who had undergone LRYGB or LAGB from 2006 to 2010 by a single surgeon (T.S.K.). The patients were grouped by procedure and then divided into 2 subgroups for each procedure. The MMP group consisted of patients whose insurance carrier required a MMP before approval for surgery. The second group (non-MMP group) included patients who underwent a bariatric procedure without undergoing a formal MMP. All patients underwent preoperative assessment and counseling at our multidisciplinary weight loss center (Carolina’s Weight Management and Wellness Center). This included a comprehensive, standardized nutritional evaluation with our registered dietician and a psychological assessment with our psychologist. A small percentage of patients had an insurance plan that did not cover psychological care with our provider, and these patients were referred to an outside psychologist. Furthermore, all patients attended a nutritional class 2 weeks before surgery and were given detailed instructions on the initiation of a standardized 1300 kcal/d liquid diet in an attempt to reduce the liver mass. In addition to the above, the MMP patients underwent a preoperative, multidisciplinary medical weight loss program at our center with one of our board-certified medical bariatricians and a team of registered dieticians and exercise physiologists. Patients who underwent a MMP for <6 months were excluded from the present study.

The primary outcome variables were weight loss and the interval to surgery (days from the initial consultation to the date of surgery). Preoperative weight loss, reported in kilograms and the percentage of excess weight loss (%EWL), was divided into 3 periods: the interval from the initial consultation to the 2-week preoperative appointment; the interval from the 2-week preoperative appointment to the day of surgery (liquid diet); and the interval from the initial consultation to the day of surgery (total preoperative weight loss). The patients who did not have weight loss data for all 3 preoperative intervals were excluded from the study. The postoperative weight loss (%EWL) was analyzed at 6 and 12 months after surgery.

The ideal body weight was defined as the mean weight for a given height in the medium frame column of the Metropolitan Life height-weight table [17]. All patients were weighed in the preoperative holding area on the day of surgery, and this weight was used to define the preoperative weight. The Student t test and chi-square test were used for statistical analysis.

Results

A total of 440 patients met the inclusion criteria for the present study. Of these 440 patients, 327 underwent LRYGB and 113 underwent LAGB, with no patient deaths in either group. No significant difference was present in age or initial body mass index between the MMP and non-MMP patients in the LRYGB and LAGB groups (Table 1). The LRYGB, non-MMP group had significantly more women than the LRYGB, MMP group (90% versus 83%, P = .044). No significant difference was found in gender in the subgroups of the LAGB group.

**LRYGB group**

In the LRYGB group, 28% of patients were required to undergo a MMP. No significant difference was seen in the weight loss (kilograms or %EWL) between the MMP and non-MMP groups at any of the 3 preoperative points (Table 2).

No significant difference was seen in the %EWL at 6 (P = .69) or 12 (P = .75) months after LRYGB between the MMP and non-MMP groups. Furthermore, no significant
difference was seen in the percentage of follow-up at 6 and 12 months between the 2 groups \( (P = .44 \text{ and } P = .86, \text{ respectively; Table 1}) \).

**LAGB group**

In the LAGB group, 23% of patients were required to undergo a MMP. No significant difference was seen in the weight loss between the MMP and non-MMP groups at any of the 3 preoperative points.

No significant difference was seen in the %EWL at the 6 \( (P = .81) \) or 12 \( (P = .22) \) months after LAGB between the MMP and non-MMP groups. Furthermore, no significant difference was seen in the percentage of follow-up at 6 and 12 months between the 2 groups \( (P = .42 \text{ and } P = .78, \text{ respectively; Table 1}) \).

**Discussion**

The goal of the present study was to determine whether MMPs significantly improve weight loss before and after bariatric surgery (LRYGB and LAGB). We also wanted to quantify the degree to which MMPs delay surgery. According to our data, no significant difference was seen in weight loss at any preoperative weight loss interval or at 6 and 12 months after surgery between the MMP and non-MMP groups. This was true for both procedures. Our results have also confirmed that MMPs are a relatively common prerequisite for bariatric surgery, with 26% of insurance carriers imposing this requirement. As expected, MMPs significantly prolonged the interval to surgery. The average LRYGB, MMP patient spent 105 more days \( (P < .001) \) waiting for surgery and the average LAGB, MMP patient 111 more days \( (P < .001) \) than their non-MMP counterparts.

Morbid obesity is a recognized disease, with an accompanying “International Classification of Disease, 9th revision,” code. Bariatric surgery has been shown to be an effective treatment of morbid obesity and its associated co-morbidities [4,5]. However, unlike almost any other disease, the insurance coverage for the treatment of morbid obesity varies highly, and patients who have coverage often face a myriad of obstacles in obtaining insurance approval for bariatric surgery. Although there are no proven benefits of MMPs, many insurance companies continue to arbitrarily impose this requirement on their policy holders.

There are several reasons why an insurance carrier might require an MMP. First, the additional weight loss achieved during an MMP could reduce the perioperative risks. Although preoperative weight loss has been shown to improve perioperative parameters (e.g., estimated blood loss, hospital stay, and complications) [13], it is unclear whether

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Demographics and postoperative weight loss</th>
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<tbody>
<tr>
<td>Group</td>
<td>Age</td>
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<tr>
<td>---------</td>
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</tr>
<tr>
<td>LRYGB</td>
<td></td>
</tr>
<tr>
<td>Non-MMP ( (n = 237) )</td>
<td>42.69</td>
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<td>.468</td>
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<tr>
<td>LAGB</td>
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<tr>
<td>Non-MMP ( (n = 87) )</td>
<td>44.25</td>
</tr>
<tr>
<td>MMP ( (n = 26) )</td>
<td>46.38</td>
</tr>
<tr>
<td>P value</td>
<td>.36</td>
</tr>
</tbody>
</table>

BMI = body mass index; %EWL = percentage of excess weight loss; LRYGB = laparoscopic Roux-en-Y gastric bypass; MMP = mandated medical program; LAGB = laparoscopic adjustable gastric banding.

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Preoperative weight loss and interval to surgery</th>
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<tbody>
<tr>
<td>LRYGB</td>
<td>Preoperative weight loss</td>
</tr>
<tr>
<td></td>
<td>Initial consultation to 2-wk preoperative visit</td>
</tr>
<tr>
<td></td>
<td>kg</td>
</tr>
<tr>
<td>Non-MMP ( (n = 237) )</td>
<td>.14</td>
</tr>
<tr>
<td>MMP ( (n = 90) )</td>
<td>.99</td>
</tr>
<tr>
<td>p value</td>
<td>.20</td>
</tr>
</tbody>
</table>

%EWL = percentage of excess weight loss; LRYGB = laparoscopic Roux-en-Y gastric bypass; MMP = mandated medical program.

* Statistically significant.
MMPs actually improve preoperative weight loss. To our knowledge, other than the present current study, Ochner et al. [16] is the only other study that specifically compared MMP and non-MMP preoperative weight loss. They concluded that MMP patients did not experience a significant weight loss benefit in the preoperative period. In fact, the MMP patients in their study actually gained weight before surgery [16]. In an attempt to fully understand the factors that might influence weight changes during the preoperative phase, we examined the weight changes at 3 different preoperative intervals. No statistically significant difference was found in the weight loss between the MMP and non-MMP groups for both LRYGB and LAGB at any of these 3 intervals. Regardless of the procedure or insurance requirement, all groups lost the vast majority of their preoperative weight during the 2-week liquid diet interval.

Insurers have also argued that counseling and education during a MMP could increase compliance, thus enhancing postoperative weight loss. Of the few studies that have examined the effect of MMPs on postoperative weight loss, none have demonstrated a clear benefit for MMPs. A study by Jamal et al. [15] showed that patients who underwent a mandatory 6-month MMP lost less weight at 1 year than the non-MMP group (60% versus 67% EWL; P < .05). Ochner et al. [16] compared the postoperative weight loss between 94 MMP patients and 59 non-MMP and concluded that MMPs did not enhance the postoperative weight loss; however, their follow-up was relatively short (3 months). Our data are consistent with the reports from Jamal et al. [15] and Ochner et al. [16]. When we compared the postoperative weight loss at 6 and 12 months for the LRYGB and LAGB patients, the weight loss of the MMP subgroups was not significantly different from that of the non-MMP subgroups.

Finally, insurance companies could have financial motivations for requiring MMPs. Our study and several others have demonstrated that MMPs prolong the interval to surgery. This delay could lead to greater attrition rates, act as a deterrent to surgery, and reduce the claims for bariatric surgery [15,16,18]. The study by Jamal et al. [15] showed that MMP patients had a significantly higher dropout rate compared with their counterparts without a similar requirement (28% versus 19%; P < .05). Although our study did not evaluate attrition rates, we did observe that the average MMP patient waited >3 months longer for surgery than did the non-MMP patients.

Our study had several unique aspects that have furthered our understanding of MMPs. The current data investigating the benefits of MMPs are sparse and hampered by confounding factors such as multiple surgeons, ill-defined weight loss metrics, and heterogeneous, unstructured medical weight loss programs. Our study was limited to a single surgeon, and our MMP patients underwent a standardized medical program for ≥6 months at our bariatric center. In addition, regardless of the insurance criteria, all patients underwent nutritional counseling with a team of 2 “surgical” dieticians at our center and were instructed to consume a standardized low-calorie, 2-week preoperative liquid diet. Furthermore, we clearly defined the intervals before surgery and the method for calculating the %EWL. Finally, our investigation is, to our knowledge, the only published study that compared the weight loss outcomes between MMP and non-MMP groups during the pre- and postoperative periods for both LRYGB and LAGB.

Our study had some limitations. First, our follow-up was not >1 year. This might have been insufficient to fully examine the weight loss in the LAGB patients, because the weight nadir in LAGB patients is thought to be 2–3 years after surgery. In addition, our follow-up period was insufficient to formulate any conclusions about the effect of MMPs on the prevention of weight regain after LRYGB. Furthermore, our study did not examine the effect of MMPs on preoperative attrition, complications, or the resolution of co-morbid conditions. Finally, although larger than most published studies, our LAGB patient population size was limited, especially for the 12-month follow-up LAGB group.

Morbid obesity is a complex disease that can involve abnormalities in behavior, metabolism, and neural and endocrine pathways. Although effective, surgery is not for everyone, and most surgeons have supported the concept of thorough psychological and nutritional counseling before

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Table 3
Preoperative weight loss and interval to laparoscopic adjustable gastric banding

<table>
<thead>
<tr>
<th>LAGB</th>
<th>Preoperative weight loss</th>
<th>Interval to surgery (d)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Initial consultation to 2-wk preoperative visit</td>
<td>Liquid diet (2 wk preoperatively)</td>
</tr>
<tr>
<td></td>
<td>kg</td>
<td>%EWL</td>
</tr>
<tr>
<td>Non-MMP (n = 87)</td>
<td>−.02</td>
<td>−68</td>
</tr>
<tr>
<td>MMP group (n = 26)</td>
<td>1.45</td>
<td>1.25</td>
</tr>
<tr>
<td>P value</td>
<td>.23</td>
<td>.32</td>
</tr>
</tbody>
</table>

%EWL = percentage of excess weight loss; LAGB = laparoscopic adjustable gastric banding; MMP = mandated medical program.

* Statistically significant.
surgery. The duration and type of preoperative therapy and evaluations should be individualized, and clearly some patients will benefit from a prolonged period of intensive behavioral and psychological preoperative therapy. However, we disagree with the practice of arbitrarily requiring all patients to undergo a fixed-period, MMP before surgery. Physicians, and not the insurance industry, should determine whether and when a patient is ready for surgery. Finally, because MMPs prolong the preoperative phase, it is likely that they increase healthcare use and inflate the costs associated with bariatric surgery.

Conclusion

Many insurance companies require patients to participate in a medical weight loss program before surgery. According to our data, MMPs do not significantly improve weight loss before or after LRYGB or LAGB; however, they significantly increase the wait time for surgery. Thus, we believe that the insurance industry should abandon the practice of mandating preoperative medical weight loss programs. Also, additional research is necessary to determine the effect of MMPs on healthcare use and costs and the durability of bariatric surgery (Table 3).

Disclosures

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

References