

Sexual Abuse Survivors and Psychiatric Hospitalization after Bariatric Surgery

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Background: Some investigators have postulated that a history of being the victim of childhood sexual abuse may impact outcome of bariatric surgery.

Methods: In this retrospective chart review, we examined the electronic medical records of 152 adults with morbid obesity who underwent Roux-en-Y gastric bypass and who had a weight recorded in their medical record or reported in a follow-up surgery at 2 years after the RYGBP. The purpose of this retrospective chart review was to examine the relationship between psychosocial factors assessed preoperatively and the percent of excess weight lost (%EWL) at 2 years after bariatric surgery.

Results: We found a high prevalence of being the victim of childhood sexual abuse (27%), adult sexual trauma (9%), and/or physical abuse (19%) at the initial evaluation. There was no association between these factors and %EWL at 2 years. However, when we examined participants' medical records for post-operative psychiatric hospitalizations at our medical center, 8 of 11 hospitalized patients reported a history of childhood sexual abuse (73%).

Conclusions: History of being the victim of childhood sexual abuse is reported frequently by patients seeking bariatric surgery. Our finding that having been the victim of childhood sexual abuse may be associated with increased risk of psychiatric hospitalization after RYGBP has several clinical implications. First, we recommend that clinicians assess carefully for a history of sexual or physical abuse, and secondly, abuse survivors may need to be told that there is an increased risk of psychiatric morbidity after bariatric surgery. Finally, perhaps close monitor-

ing of these patients may prevent psychiatric difficulties after surgery. Further research to verify these preliminary findings is clearly needed.

Key words: Morbid obesity, abuse history, bariatric surgery, Roux-en-Y gastric bypass, psychiatric hospitalizations

Introduction

Not all patients who undergo bariatric surgery will experience clinically significant weight loss, improvements in their health, or improvements in their quality of life.^{1,2} Some investigators have proposed that psychosocial factors contribute to poor outcome after bariatric surgery; however, which psychosocial factor(s) is a reliable predictor of outcome is not well-established.³⁻⁵ Psychosocial factors have included depression, alcohol or substance abuse, schizophrenia, binge eating disorder, night eating syndrome,⁶ abuse survivorship issues and personality disorders. Many individuals seeking bariatric surgery have active psychiatric or psychological difficulties.^{7,8} Many will already be on psychotropic medications,⁹ and approximately half will have a defined psychiatric disorder, a personality disorder, or doubtful motivation for bariatric surgery.^{7,8,10} It is common clinical practice to refer patients for additional mental health treatment (15% to 30% of those seeking bariatric surgery) or to postpone or cancel bariatric surgery (0 to 10% of

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surgical candidates) until the psychiatric or psychologic difficulties are well-managed.^{3,6,11-13}

One psychosocial domain that has received attention is patients who self-report a history of having been the victim of childhood sexual abuse.¹⁴ It is estimated that 11-32% of females and 4-14% of males have been the victim of childhood sexual abuse, and several studies have found a relationship between history of childhood sexual abuse and adult obesity.¹⁴ It has been proposed that weight may be protective for childhood sexual abuse survivors, thereby making weight loss problematic. We previously reported that patients who were the victims of childhood sexual abuse and who participated in a multidisciplinary weight loss program lost less weight, reported more non-adherence to the diet, and dropped out of treatment sooner,¹⁵ compared to those who stated that they were not the victim of childhood sexual abuse. Several investigators have examined the prevalence of a history of being the victim of childhood sexual abuse in patients undergoing bariatric surgery. Wadden and colleagues¹⁶ found that 20% of 142 females seeking bariatric surgery reported being the victim of sexual abuse and 25% reported symptoms of a significant mood disorder. Grilo and colleagues¹⁷ found that 32% of 340 patients seeking to have bariatric surgery reported being the victim of childhood sexual abuse.

In a follow-up investigation correlating a history of abuse and 1-year outcome, these authors found that while history of being the victim of childhood sexual abuse was not related to weight loss, it was related to higher depression scores on the Beck Depression Inventory (BDI) administered 1 year postoperatively.¹⁸ Very similar findings were obtained by researchers in The Netherlands.¹⁹

The primary aim of our study was to examine the possible impact of childhood sexual abuse on the percent of excess weight lost (%EWL) after bariatric surgery. A secondary aim was to examine the relationship between self-report of being the victim of childhood sexual abuse and psychiatric hospitalization after surgery. We hypothesized that medical and physiologic factors impact the extent of weight lost during the first year, and that long-term outcome of at least 2 years postoperatively must be examined to determine any connection between psychosocial factors and outcomes of bariatric surgery.²

Methods

We obtained institutional review board permission to examine the medical, psychiatric, and psychologic clinical records of patients at Mayo Clinic Rochester who underwent Roux-en-Y gastric bypass (RYGBP) for weight-related morbidity in 1999, 2000, and 2001. These years were selected so that a full 2-year postoperative outcome (weight loss) could be obtained. For the years 1999, 2000, and 2001, 62, 62 and 87 patients, respectively, underwent RYGBP. Of these 211 eligible patients, we had reliable 2-year weights available on 152 patients who comprised the study sample; 79 weights were from the electronic medical records, and 73 were self-reported.

At the time of the initial preoperative multidisciplinary evaluation, all patients underwent a psychologic evaluation as an essential part of their assessment. Patients were asked, using a semi-structured interview, about current psychosocial stressors, symptoms of depression (abnormalities of mood, sleep disturbance, libido, memory, concentration, self-esteem, feelings of guilt or hopelessness, and suicidal thoughts or actions), symptoms of anxiety, symptoms of a thought disorder, history of trauma (childhood sexual abuse, adult sexual trauma, or physical abuse), binge eating disorder, night eating syndrome, alcohol and substance usage, social support, relationships, and motivation for implementation of changes in lifestyle.²⁰ Our clinical practice before bariatric surgery is to require >12 months of abstinence in patients with substance abuse, >12 months from the last psychiatric hospitalization, and that a mood disorder or a thought disorder be stable and under active mental health treatment.²¹

Measures

During the semi-structured, preoperative psychologic interview, all patients were evaluated specifically for a history of having been the victim of either childhood sexual abuse, sexual trauma as an adult (age ≥ 18 years old), and/or physical abuse. Specifically, patients were asked: During childhood were you the victim of any abuse? Any physical abuse? Any sexual abuse? As an adult, have you been the victim of any abuse? Physical? Sexual?

Patients' self-report to these questions were recorded in their psychological evaluation. In addition, they were asked the following questions: Is being overweight protective for you? Have you ever received treatment for substance abuse, mental health, or eating disorders? For assessment of binge eating disorder, patients were asked: Do you consume a large amount of food in a short period of time, with a perceived loss of control; if yes, over the past 6 months, has this occurred at least two or more days per week, on average? For night eating syndrome, we asked: Do you ever wake up during your sleep cycle and consume food? Do you fall asleep, then awaken, eat, and return to sleep? We did not inquire about morning anorexia or evening hyperphagia. Exercise was defined as 20 minutes of aerobic activity at least 3 days per week. Subjects were asked about receiving previous mental health, substance abuse, or eating disorder treatment. We also examined patient medical records for admission to our inpatient psychiatric center after having had bariatric surgery.

Statistical Analysis

We examined the relationship between preoperative psychosocial classification (presence or absence of a history of childhood sexual abuse) and percent of excess weight lost 2 years after bariatric surgery using a series of *t*-tests. To control for the multiple comparisons, we selected a *P* value of ≤ 0.01 to indicate statistical significance.

Results

Participants

Of the 152 patients, 111 were female and 41 were male. The average age was 51.3 years (range of 23 to 80 years). Most were White (97%); the others included one Native American, one African American, and two Hispanic patients. Most patients were married (68%), 18% were single, 11% were divorced, and a few were separated (1%) or co-habiting (2%). Only 7% were not high school graduates, while the highest level of education included high school (31%), secondary education (49%), and higher postgraduate education (13%). Most were employed actively (79%).

Psychosocial Classification and Weight Lost

Records were classified for affirmative or negative answers to the semi-structured interview questions. None of the preoperative psychosocial classifications was found to be related significantly to 2 year %EWL (Table 1). Specifically, similar to other investigators,^{18,19} a history of childhood sexual abuse was not associated with %EWL (64% vs 69%; *P*>0.1).

Psychiatric Hospitalization

In addition to weight loss, we determined if the patients had been hospitalized at our psychiatric inpatient hospital facility. Eight of the 37 patients (22%) with a history of childhood sexual abuse were hospitalized at our institution after bariatric surgery for psychiatric care, compared to 3 of the 115 (3%) who denied a history of childhood sexual abuse (*P*<0.001). A Fisher's exact test, comparing the 21.6% rate of psychiatric hospitalization of the childhood abuse survivors, to the 2.6% of psychiatric hospitalization in the non-abuse survivors, was significant (*P*=0.0006). Geographic differences in residence between these two groups did not appear to account for this finding, because the percentage of patients in

Table 1. Percent of excess weight loss (%EWL) at 2 years and psychosocial factors

CLASS	Reported %EWL		Denied %EWL		<i>t</i> -Test, <i>P</i> -value
	Mean	N	Mean	N	
Hx Sexual Abuse	64	37	69	102	0.10
Hx Sexual Trauma	65	14	68	123	0.55
Hx Physical Abuse	65	26	68	111	0.42
Weight is Protective	64	26	68	101	0.34
Night Eating Syndrome	60	16	67	112	0.09
Substance Abuse Tx	63	7	68	142	0.50
Personal Psych Tx	68	90	66	60	0.75
Eating Disorder Tx	71	11	67	138	0.45
Binge Eater	65	17	68	132	0.45
Exerciser	68	46	67	104	0.88
Smoking Status	68	81	67	70	0.79
Employed	66	120	71	31	0.13

Hx = history of. Tx = treatment.

each group who lived in our county was similar (35% vs 22%, Fishers exact test, $P=0.1233$). The eight patients with a history of childhood sexual abuse were hospitalized at an average of 21 months postoperatively (range 6 to 41 months), while the three patients without a history of abuse were hospitalized at an average of 38 months after surgery (range 18 to 52 months). All eight hospitalized patients with a history of childhood sexual abuse were female, all had history of receiving mental health treatment prior to bariatric surgery, five had previous psychiatric hospitalizations, five were also the victim of physical abuse, five were the victim of sexual trauma as an adult, five identified that weight was protective to them, and all were hospitalized for management of depression. The number of psychiatric hospitalizations after bariatric surgery ranged from one to nine hospitalizations. The three patients hospitalized who had denied a history of abuse were all male, two had previously received outpatient psychiatric treatment, two identified that weight was protective to them, and none had been hospitalized previously for psychiatric reasons. The cause for psychiatric hospitalization after bariatric surgery in these patients involved a mood disorder in one and issues of substance use in two, and required only one psychiatric hospitalization during follow-up after bariatric surgery.

Discussion

Similar to other investigators, we did not find a relationship between a history of childhood sexual abuse and the %EWL in the first 2 years after bariatric surgery.^{18,19} We did find, however, that almost one-fourth of the survivors of childhood sexual abuse required psychiatric hospitalization in our medical center after bariatric surgery, compared to a rate of psychiatric hospitalization of about 3% in those who denied being the victim of childhood sexual abuse. It has been previously postulated that weight may be adaptive for some survivors of childhood sexual abuse, thereby making weight loss challenging.¹⁴ Given our tertiary referral practice, and that our records only reflect care received at our medical center, this estimated rate of psychiatric hospitalization may be an underestimate of psychiatric hospitalization. If other bariatric surgery centers find similar results in prospective studies,

it may be that several clinical guidelines should be introduced for survivors of childhood sexual abuse. First, health-care providers should carefully ask questions regarding abuse history. Previous researchers have found that depression is prevalent in survivors of childhood sexual abuse,^{18,19} and we found that all eight of our patients with a history of childhood sexual abuse who were hospitalized for psychiatric reasons postoperatively, received the treatment for a mood disorder. Other researchers have found that survivors of childhood sexual abuse experience difficulties with depression after bariatric surgery.^{16,19} Therefore, expectation of and careful monitoring for symptoms of a mood disorder appear to be crucial for these patients. Clinicians also need to assess for current symptoms of Post Traumatic Stress Disorder (PTSD), inquire about positive or protective aspects of being overweight, and ask if previous efforts at weight loss triggered symptoms of PTSD.²² Perhaps those with a history of having been the victim of childhood sexual abuse as well as their health-care providers need to be informed of this increased risk of psychiatric hospitalization after having bariatric surgery so that the patient and the health-care team can weigh this risk and other risks against the numerous medical and quality of life benefits afforded by bariatric surgery. Additionally, the health-care team may benefit from increasing the intensity of the psychologic/psychiatric surveillance early after bariatric surgery for abuse survivors.

This study does not demonstrate a causal relationship between bariatric surgery and need for psychiatric hospitalization. Indeed, five of the childhood sexual abuse survivors had been hospitalized for psychiatric considerations prior to undergoing bariatric surgery, and it is possible that they may have needed further psychiatric hospitalizations even if they had not undergone bariatric surgery. Other researchers have found that previous psychiatric hospitalizations are related to post-surgery psychiatric hospitalizations.⁷ Nevertheless, our findings provide support for the premise that a history of childhood sexual abuse, combined with an active mood disorder, is a risk factor for psychiatric hospitalization after bariatric surgery. Although our results are only suggestive of possible relationships, our study does highlight a subpopulation of bariatric surgery patients who may require more intense psychologic follow-up in the first 2 years postoperatively, and we as health-care providers should sup-

port the concept of insurance coverage of focused psychiatric counseling postoperatively.

Survivors of childhood sexual abuse have already been the victim against whom horrific acts have been perpetrated. Our goal is not to further contribute to this victimization. Our results and results from two other centers^{18,19} have found that survivors of childhood sexual abuse do not lose less weight compared to non-traumatized patients, and, therefore we would anticipate that these patients would experience numerous improvements in health and quality of life after undergoing bariatric surgery. However, if other investigators confirm these results, then we need to counsel patients with a history of childhood sexual abuse, and we need to inform them of this risk of psychologic/psychiatric decompensation after bariatric surgery. In addition, careful monitoring of symptoms and ongoing appropriate outpatient mental health care after surgery may prevent or reduce the need for subsequent psychiatric hospitalization. Our previous retrospective chart review found that having received either mental health or substance abuse treatment increased the percent of excess weight lost at the 2-year follow-up.²³ Although our results are preliminary, they clearly support further research in this area. For a detailed review of the methodological issues involved in examining the relationship between childhood sexual abuse and obesity, guidelines and suggestions for future research are available.¹⁴

References

1. Balsiger B, Kennedy F, Abu-Lebdeh H et al. Prospective evaluation of Roux-en-Y gastric bypass as primary operation for medically complicated obesity. Mayo Clin Proc 2000; 75: 673-80.
2. Bocchieri L, Meana M, Fisher B. A review of psychosocial outcomes of surgery for morbid obesity. J Psychosom Res 2002; 52: 155-65.
3. Fabricatore A, Crerand C, Wadden T et al. How do mental health professionals evaluate candidates for bariatric surgery? Survey results. Obes Surg 2006; 16: 567-73.
4. Devlin M, Goldfein J, Flancbaum L et al. Surgical management of obese patients with eating disorders: A survey of current practice. Obes Surg 2004; 14: 1252-7.
5. Wadden T, Sarwer D. Behavioral assessment of candidates for bariatric surgery: A patient-oriented approach. Obesity 2006; 14: 53-62.
6. Allison K, Wadden T, Sarwer D et al. Night eating syndrome and binge eating disorder among persons seeking bariatric surgery: Prevalence and related features. Obesity 2006; 14: 77-82.
7. Herpertz S, Kielmann R, Wolf A et al. Do psychosocial variables predict weight loss or mental health after obesity surgery? A systematic review. Obes Res 2004; 12: 1554-69.
8. Sarwer D, Wadden T, Fabricatore A. Psychosocial and behavioral aspects of bariatric surgery. Obes Res 2005; 13: 639-48.
9. Pawlow L, O'Neil P, White M et al. Findings and outcomes of psychological evaluations of gastric bypass applicants. SOARD 2005; 1: 523-7.
10. Rosik C. Psychiatric symptoms among prospective bariatric surgery patients: Rates of prevalence and their relation to social desirability, pursuit of surgery, and follow-up attendance. Obes Surg 2005; 15: 677-83.
11. Sarwer D, Cohn N, Gibbons L et al. Psychiatric diagnosis and psychiatric treatment among bariatric surgery candidates. Obes Surg 2004; 14: 1148-56.
12. Bauchowitz A, Gonder-Frederick L, Olbrisch M et al. Psychosocial evaluation of bariatric surgery candidates: A survey of present practices. Psychosomatic Med 2005; 67: 825-32.
13. Kalarchian M, Marcus M, Wilson G et al. Binge eating among gastric bypass patients at long-term follow-up. Obes Surg 2002; 12: 270-5.
14. Gustafson T, Sarwer D. Childhood sexual abuse and obesity. Obes Rev 2004; 5: 129-35.
15. King T, Clark M, Pera V. History of sexual abuse and obesity treatment outcome. Addict Behav 1996; 21: 283-90.
16. Wadden T, Butryn M, Sarwer D et al. Comparison of psychosocial status in treatment-seeking women with class III vs class I-II obesity. Obesity 2006; 14 (Suppl 2): 90S-98S.
17. Grilo C, Masheb R, Brody M et al. Childhood maltreatment in extremely obese male and female bariatric surgery candidates. Obes Res 2005; 13: 123-30.
18. Grilo C, White M, Masheb R et al. Relation of childhood sexual abuse and other forms of maltreatment to 12-month postoperative outcomes in extremely obese gastric bypass patients. Obes Surg 2006; 16: 454-60.
19. Larsen J, Geenen R. Childhood sexual abuse is not associated with a poor outcome after gastric banding for severe obesity. Obes Surg 2005; 15: 534-7.
20. Collazo-Clavell M, Clark M, McAlpine D et al. Assessment and preparation of patients for bariatric surgery. Mayo Clin Proc 2006; 81 (Suppl 10): S11-S17.
21. Kendrick M, Clark M, Collazo-Clavell M et al. Multidisciplinary team in a bariatric surgery program. In: Buchwald H, Cowan G, Pories W, eds. *Surgical Management of Obesity*. Philadelphia: Saunders Elsevier 2006: 425-31.
22. McMahon M, Sarr M, Clark M et al. Clinical management after bariatric surgery: Value of a multidisciplinary approach. Mayo Clin Proc 2006; 81 (Suppl 10): S34-S45.
23. Clark M, Balsiger B, Sletten C et al. Psychosocial factors and 2-year outcome following bariatric surgery for weight loss. Obes Surg 2003; 13: 739-45.

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