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Controversies in bariatric surgery

Bariatric surgery in the cognitively impaired

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Abstract

Background: Obesity is prevalent in patients with cognitive impairment, but the risks and benefits in this complex group are unknown.

Objectives: The aim of this study was to assess outcomes in a small cohort of patients with lifelong cognitive impairment who underwent bariatric surgery and to introduce important concepts when considering surgery in this complex group.

Setting: Academic institution, United States.

Methods: We retrospectively analyzed all patients with an objective psychological and/or neuropsychological diagnosis of lifelong, nonacquired cognitive impairment who had bariatric surgery at our center.

Results: We identified 6 patients with a diagnosis of nonacquired cognitive impairment who underwent a bariatric procedure. The cohort (3 male, 3 female) had a mean age of 33.3 years and a mean body mass index (BMI) of 49.4 kg/m^2. Two of the patients had a diagnosis of trisomy 21, and the other 4 patients had lifelong cognitive impairment from unknown causes. The distribution of surgical approaches was 2 laparoscopic Roux-en-Y gastric bypasses (LRYGBs), 3 laparoscopic sleeve gastrectomies (SGs), and 1 laparoscopic adjustable gastric band (LAGB). There were no complications and no mortality. At a mean follow-up of 33.7 months, the cohort had a mean percent excess weight loss (%EWL) of 31.1% (range –1.8%–72.2%). Two patients achieved a % EWL >50%.

Conclusions: This case series suggests that bariatric surgery can be performed with minimal morbidity in patients with nonacquired cognitive impairment after intensive multidisciplinary management. However, it appears this population may lose less weight than what is reported for patients without cognitive delay. (Surg Obes Relat Dis 2015;11:711–714.)

Keywords: Bariatric; Obesity; Cognitive; Intellectual disability; Multidisciplinary; Trisomy 21; Controversial; Gastric bypass; Sleeve gastrectomy

The indications and contraindications for bariatric surgery continue to evolve as we explore the outcomes in various patient populations. Not unlike other therapeutic considerations in medicine, the potential weight loss and metabolic benefits of bariatric or metabolic surgery must be weighed against potential risks or pitfalls on a case-by-case basis. Interestingly, obesity and its associated co-morbid conditions are prevalent in patients with cognitive impairment, but the risks and benefits of bariatric surgery in this complex group are not well known [1–3]. Studies examining outcomes have been limited to case reports, and thus most bariatric programs do not consider patients with intellectual and/or developmental disabilities to be surgical candidates [4]. At more severe levels of impairment

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(Intelligence Quotient [IQ] 50–70), only 6.2% of programs do not consider this a contraindication [5]. Furthermore, published guidelines, such as the 2013 AACE/TOS/ASMBS guidelines on perioperative management of the bariatric patient, note the importance of a clear understanding of the risks, benefits, outcomes, and alternatives to surgery, and this ability to consent may be compromised in those with cognitive impairments [6].

The aim of this case series is to present outcomes of a small cohort of patients with longstanding, nonacquired cognitive impairment who underwent bariatric surgery at our center after extensive multidisciplinary assessment. Furthermore, this report aims to highlight difficult issues, like informed consent, which contribute to the overall complexity and emphasize the necessity of intensive multidisciplinary involvement when considering bariatric surgery in patients with cognitive impairment.

Methods

After Institutional Review Board approval, we retrospectively identified all patients with an objective psychological and/or neuropsychological diagnosis of lifelong, nonacquired cognitive impairment (e.g., trisomy 21, borderline intellectual functioning) who had surgery at our center. Patients with acquired neuropsychological deficits (e.g., trauma, stroke) were excluded from this series. Patient demographic characteristics, perioperative parameters, and follow-up data were extracted and analyzed. Effectiveness of surgery was measured by calculating percent weight loss (%WL) and percent excess weight loss (%EWL) based on an ideal body mass index (BMI) of 25 kg/m^2.

Results

We identified 6 patients with longstanding nonacquired cognitive impairment (cases summarized in Table 1) that underwent a weight loss procedure. The cohort (3 male, 3 female) had a mean age of 33.3 years, a mean BMI of 49.4 kg/m^2, and a median of 5 co-morbidities. Two of the patients had a diagnosis of trisomy 21 or Down syndrome (one with mild cognitive impairment, the other mild to moderate) and the other 4 patients had lifelong cognitive impairment from unknown causes (2 with mild cognitive impairment and 2 with mild to borderline impairment based on full-scale IQ). The level of functional impairment of the cohort ranged from borderline to extremely low. The distribution of surgical approaches was: 2 laparoscopic Roux-en-Y gastric bypass (LRYGB), 3 laparoscopic sleeve gastrectomy (SG), and 1 laparoscopic adjustable gastric band (LAGB). The mean preoperative evaluation duration was 10.2 months (range 5–17 mo). There were no complications or mortality during the study period. There was one brief readmission (readmitted on postoperative day 5 for 48 hr) after SG for fever without an identifiable cause (cultures

Table 1
Bariatric surgery in the cognitively impaired: case summary

Age/sex	BMI (kg/m^2)	Cognitive diagnosis	Co-morbid conditions	Full IQ	Level of function	Procedure	Follow-up (mo)	%EWL (%)	Living situation/support
56/M	41.8	Impairment NOS	HTN, MDE, OA, OSA	55–70	Mild impairment	LRYGB	24	12.0	Lives with spouse and adult child
32/F	47.6	Impairment NOS	Asthma, GERD, HLD, MDE, OSA, T2DM	72	Borderline/mild impairment	LRYGB	61	72.7	Lives independently with close family supervision
36/F	47.4	Impairment NOS	CHF, HTN	59	Extremely low	LAGB	35	19.6	Lived with spouse who subsequently died
45/F	51.0	Impairment NOS	Asthma, NASH, OA, OSA, T2DM	79	Mild impairment	LSG	33	–1.8	Lives with spouse
20/M	46.4	Trisomy 21	Hepatitis B, HLD, HTN, hypothyroid, OSA, recurrent pneumonia	55–70	Mild impairment	LSG	12	63.4	Lives with mother who previously had LRYGB
23/M	62.3	Trisomy 21	Asthma, ASD, hypothyroid, MVR, OSA, pelvic osteochondrosis, recurrent pneumonia, T2DM	56	Borderline/mild impairment	LSG	37	20.9	Lives with parents

BMI = body mass index; %EWL = percent excess weight loss; NOS = not otherwise specified; HTN = hypertension; MDE = major depressive episodes; OA = osteoarthritis; OSA = obstructive sleep apnea; LRYGB = laparoscopic Roux-en-Y gastric bypass; GERD = gastroesophageal reflux disease; HLD = hyperlipidemia; T2DM = type 2 diabetes mellitus; CHF = congestive heart failure; LAGB = laparoscopic adjustable gastric band; NASH = nonalcoholic steatohepatitis; LSG = laparoscopic sleeve gastrectomy; ASD = atrial septal defect; MVR = mitral valve regurgitation.