DOI: https://doi.org/10.2298/SARH220212029I
UDC: 613.25:617.555-089]:616.89-008.454-056.24

CASE REPORT / ПРИКАЗ БОЛЕСНИКА

Mini/one anastomosis gastric bypass in an obese depressive patient

Miroslav D. Ilić[1,2], Srđan S. Putnik[3]

[1]Institute for Pulmonary Diseases of Vojvodina, Clinic for Thoracic Surgery, Sremska Kamenica, Serbia;
[2]University of Novi Sad, Faculty of Medicine, Novi Sad, Serbia;
[3]Vršac General Hospital, Department of General Surgery, Vršac, Serbia

SUMMARY

Introduction There is a high prevalence of psychiatric disorders, especially depression, in patients who are preparing for metabolic operations. Mini/one anastomosis gastric bypass (MGB/OAGB) is a bariatric operation with the possibility of complete restoration of the digestive tract or "tailoring" of a biliopancreatic limb if the patient regains weight.

We present an obese patient with depression who underwent the first MGB/OAGB in Serbia with a follow-up period of one year.

Case outline An obese patient with a body weight of 144 kilograms and a body mass index (BMI) of 46.8 kg/m^2 and depression as an accompanying comorbidity underwent MGB/OAGB with a follow-up period of one year. The operation was performed using the inventor's technique in his presence and the recovery was uneventful. The patient completely stopped taking psychiatric or any other therapy, with no difficulties, and full occupational and social recovery. After the follow-up period, he has lost 49 kg, BMI = 30. 9 kg/m^2, and the percentage of excess weight loss (%EWL) has been 73.1%.

Conclusion In psychiatric obese patients, a metabolic procedure should be carefully selected. MGB/OAGB proved to be a successful bariatric procedure in our patient, leading to remission of depression and discontinuation of psychiatric therapy, as well as to a significant reduction in body weight in the period of one year after surgery.

Keywords: mini gastric bypass; one anastomosis; depression; metabolic procedure

INTRODUCTION

There is a high prevalence of psychiatric disorders in obese patients who are preparing for a metabolic operation [1]. Depression before and after bariatric surgery can affect not only the health-related quality of life but also can endanger surgical procedures and lead to late surgical and nutritional complications [2]. Changes in lifestyle and eating habits may influence different postoperative conditions. It is important to choose an appropriate surgical bariatric/metabolic procedure after the expertise of a multidisciplinary team, especially psychological examination [3, 4].

Mini gastric bypass (MGB), also known as one anastomosis gastric bypass (OAGB), is a metabolic procedure invented by an American surgeon Dr. Robert Rutledge. First published results on 1274 cases operated on between 1997 and 2001 were promising regarding weight loss and metabolic control on co-morbidities [5]. Later on, other surgeons also published good results [6, 7, 8]. The procedure is completely reversible and could easily be transformed into a stronger malabsorptive operation, with minimal morbidity and mortality [9, 10]. There were concerns about bile reflux, but recently published papers on this subject did not show a significant influence of bile reflux on long-term results [11, 12]. Today, MGB/OAGB is worldwide recognized as a good operation, with comparable results in treating obesity, as well as type 2 diabetes mellitus, even better than Roux-en-Y gastric bypass (RYGB) [13, 14]. Bile reflux, as a more prominent problem of the operation, rarely needs to be solved by Braun anastomosis or a conversion into RYGB [15, 16].

We present a first MGB/OAGB obese patient with depression operated on in Serbia with a follow-up period of one year.

CASE REPORT

The patient was male, Caucasian, 26 years old, with a BMI of 46.8 kg/m^2 and with a five-year clinical history of depression. We performed the MGB/OAGB on May 28, 2016 under the guidance of Dr. Robert Rutledge, who was a visiting physician at the clinic using his original laparoscopic technique. Five ports were placed in the upper abdomen and after the first stapling at the gastric incisura, a bougie was properly placed against the small curvature and staple line. The stomach was transected along bougie to the gastro-esophageal junction but several centimeters away from the fat pad. The antecolic biliopancreatic limb was lifted up and 180–200 cm from Treitz ligament anastomosis between stomach and jejunum was created, with 4.5 cm blue cartridge and V-Loc™ device (Medtronic,

Received • Примљено: February 12, 2022
Revised • Ревизија: February 16, 2023
Accepted • Прихваћено: March 12, 2023
Online first: March 21, 2023

Correspondence to:
Srđan S. PUTNIK
Vršac General Hospital
Department of General Surgery
Abraševićeva 13
26300 Vršac, Serbia
putniksrdjan@outlook.com

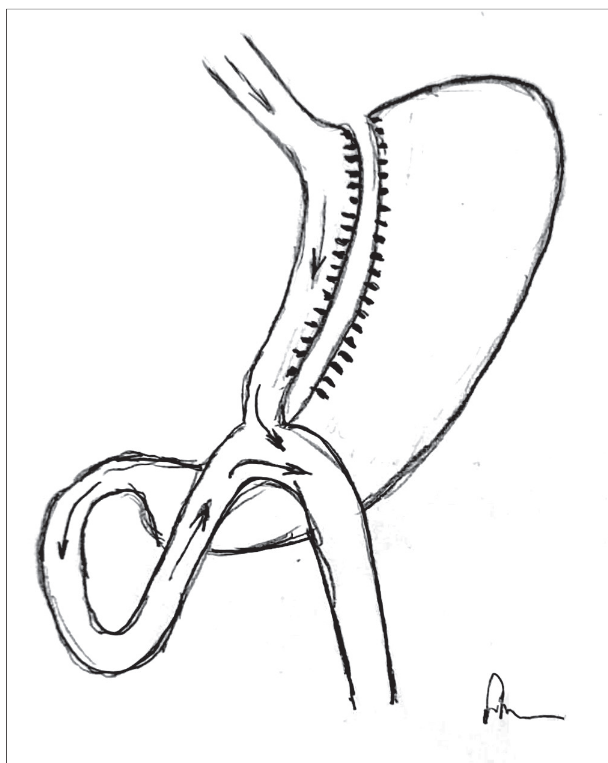

Figure 1. Mini/one anastomosis gastric bypass

Minneapolis, MN, USA) (Figure 1). The patient was discharged from the hospital on the fourth postoperative day with one-month prophylactic anticoagulative therapy (low-molecular-weight heparin). Regular controls were on the first, the second month after the operation, and later on every six months. The result of BMI and percentage of excess weight loss (%EWL) are shown in Table 1.

Table 1. Results one year after procedure

Months	0	1	6	12
Weight (kg)	144	126	114	95
BMI (kg/m^2)	46.8	41	37	30.9
%EWL	/	26.9	44.7	73.1

Percent excess weight loss (%EWL) = (initial weight) – (postoperative weight) / (initial weight) – (ideal weight) × 100

This case report was approved by the institutional ethics committee, and written consent was obtained from the patient for the publication of this case report and any accompanying images.

DISCUSSION

MGB/OAGB is currently the third most frequently performed bariatric procedure in the world with a share of 7.6% [17]. According to the latest consensus conference, MGB/OAGB is an appropriate option for a single-stage procedure in elderly patients, patients with low BMI (30–35 kg/m^2) and associated metabolic problems, and patients with a BMI greater than 50 kg/m^2 [18].

It is a powerful combination of restrictive and malabsorptive metabolic operation, with only one anastomosis [11]. This feature of the gastric tube (15–20 cm long) and one anastomosis gives "non-obstructive" passage of food, without increasing pressure in the stomach [7]. MGB/OAGB is a completely reversible procedure [9]. Restoration of the digestive tract could be done with a combination of laparoscopic two steps: "mini gastro-gastroplasty", in which surgeon creates lateral–lateral "tube-remnant stomach" anastomosis and a simple transect previous stapling line on gastro-jejunostomy with one stapler and leaves the bowel non-obstructive. If the obese patient changes his habits and starts to regain weight, then a surgical option in MGB/OAGB could be the addition of an extension on a biliopancreatic limb of up to 2.5 meters, or even more. In the laparoscopic procedure, a surgeon does a transection of the previous gastro/jejunostomy and creates a new anastomosis 50 cm away from the previous anastomosis between the gastric tube and the jejunum [16].

In individuals with a history of depression, bariatric surgery is associated with an improvement in mental health. For those with five years of pre-existing depression, just over 20% of post-surgical patients had no further depression episodes [19]. According to some recent studies, in terms of weight loss, MGB/OAGB is superior to laparoscopic gastric sleeve resection, but it also gives very good results in the treatment of type 2 diabetes [20, 21].

In our case, there was a satisfactory response regarding %EWL, as well as the cessation of psychiatric therapy and remission of depression. But in patients with severe depression, there is doubt whether any surgery is sufficient and successful enough for treating obesity combined with the eating disorder. Some authors do not recommend any metabolic procedure [22]. That's why in this group of patients metabolic operation should be taken very carefully, regarding the complex postoperative period. Needs for maintaining psychiatric therapy and lifestyle (sweets- or binge-eaters), especially regarding alcohol taking and smoking, must be observed [23]. In our patient, we chose MGB/OAGB as an operation with the possibility of complete restoration of the digestive tract, and with preoperative anamnestic data of cessation of alcohol consumption.

In psychiatric obese patients, the metabolic procedure should be carefully selected. MGB/OAGB is the ideal bariatric/metabolic procedure in this group of patients: completely reversible and can be easily reverted or "tailored" to the profound malabsorptive component, depending on the patient's habits after the operation. MGB/OAGB is a powerful operation with low mortality and low morbidity and is especially indicated in the psychiatric group of obese patients.

In conclusion, MGB/OAGB proved to be a successful bariatric procedure in our patient, leading to remission of depression and discontinuation of psychiatric therapy, as well as to a significant reduction in body weight, with a %EWL of 73.1% one year after surgery.

Conflict of interest: None declared.

REFERENCES

1. Every-Palmer S, Romans SE, Stubbs R, Tomlinson A, Gandhi S, Huthwaite M. Experiences of Weight-Loss Surgery in People With Serious Mental Illness: A Qualitative Study. Front Psychiatry. 2020;11:419. [DOI: 10.3389/fpsyt.2020.00419] [PMID: 32477191]
2. Arhi CS, Dudley R, Moussa O, Ardissino M, Scholtz S, Purkayastha S. The Complex Association Between Bariatric Surgery and Depression: a National Nested-Control Study. Obes Surg. 2021;31(5):1994–2001. [DOI: 10.1007/s11695-020-05201-z] [PMID: 33537948]
3. Oliver A, Hooper S, Lau R, Hutchinson A. Effect of a multidisciplinary rehabilitation program for patients receiving weight management interventions on eating behaviours and health-related quality of life. Obes Res Clin Pract. 2021;15(3):268–274. [DOI: 10.1016/j.orcp.2021.03.006] [PMID: 33736958]
4. Tække L, Lunn S. The effect of mental health on weight loss after bariatric surgery. Dan Med J. 2019;66(2):A5532. [PMID: 30722827]
5. Rutledge R, Kular K, Manchanda N. The Mini-Gastric Bypass original technique. Int J Surg. 2019;61:38–41. [DOI: 10.1016/j.ijsu.2018.10.042] [PMID: 30476553]
6. Level L, Rojas A, Piñango S, Avariano Y. One anastomosis gastric bypass vs. Roux-en-Y gastric bypass: a 5-year follow-up prospective randomized trial. Langenbecks Arch Surg. 2021;406(1):171–9. [DOI: 10.1007/s00423-020-01949-1] [PMID: 32761373]
7. Carbajo M, García-Caballero M, Toledano M, Osorio D, García-Lanza C, Carmona JA. One-anastomosis gastric bypass by laparoscopy: results of the first 209 patients. Obes Surg. 2005;15(3):398–404. [DOI: 10.1381/0960892053576677] [PMID: 15826476]
8. Jia D, Tan H, Faramand A, Fang F. One Anastomosis Gastric Bypass Versus Roux-en-Y Gastric Bypass for Obesity: a Systematic Review and Meta-Analysis of Randomized Clinical Trials. Obes Surg. 2020;30(4):1211–8. [DOI: 10.1007/s11695-019-04288-3] [PMID: 31749109]
9. Rutledge R, Walsh TR. Continued excellent results with the mini-gastric bypass: six-year study in 2,410 patients. Obes Surg. 2005;15(9):1304–8. [DOI: 10.1381/096089205774512663] [PMID: 16259892]
10. Deitel M, Rutledge R. Mini-gastric bypass: Prevention and management of complications in performance and follow-up. Int J Surg. 2019;71:119–23. [DOI: 10.1016/j.ijsu.2019.09.003] [PMID: 31557531]
11. Carbajo MA, Luque-de-León E, Jiménez JM, Ortiz-de-Solórzano J, Pérez-Miranda M, Castro-Alija MJ. Laparoscopic One-Anastomosis Gastric Bypass: Technique, Results, and Long-Term Follow-Up in 1200 Patients. Obes Surg. 2017;27(5):1153–67. [DOI: 10.1007/s11695-016-2428-1] [PMID:27783366]
12. Cantay H, Binnetoglu K, Erdogdu UE, Firat YD, Cayci HM. Comparison of short- and long-term outcomes of bariatric surgery methods: A retrospective study. Medicine (Baltimore). 2022;101(38):e30679. [DOI: 10.1097/MD.0000000000030679] [PMID: 36197162]
13. Vrakopoulou GZ, Theodoropoulos C, Kalles V, Zografos G, Almpanopoulos K. Type 2 diabetes mellitus status in obese patients following sleeve gastrectomy or one anastomosis gastric bypass. Sci Rep. 2021;11(1):4421. [DOI: 10.1038/s41598-021-83807-8] [PMID: 33627710]
14. Wang FG, Yan WM, Yan M, Song MM. Outcomes of Mini vs Roux-en-Y gastric bypass: A meta-analysis and systematic review. Int J Surg. 2018;56:7–14. [DOI: 10.1016/j.ijsu.2018.05.009] [PMID: 29753952]
15. Deitel M. History of the MGB and OAGB operations. Int J Surg. 2019;66:79–83. [DOI: 10.1016/j.ijsu.2019.04.018] [PMID: 31054329]
16. Lee WJ, Wang W, Lee YC, Huang MT, Ser KH, Chen JC. Laparoscopic mini-gastric bypass: experience with tailored bypass limb according to body weight. Obes Surg. 2008;18(3):294–9. [DOI: 10.1007/s11695-007-9367-9] [PMID:18193178]
17. Welbourn R, Hollyman M, Kinsman R, Dixon J, Liem R, Ottosson J, et al. Bariatric Surgery Worldwide: Baseline Demographic Description and One-Year Outcomes from the Fourth IFSO Global Registry Report 2018. Obes Surg. 2019;29(3):782–95. [DOI: 10.1007/s11695-018-3593-1] [PMID: 30421326]
18. Kermansaravi M, Parmar C, Chiappetta S, Shahabi S, Abbass A, Abbas SI, et al. Patient Selection in One Anastomosis/Mini Gastric Bypass-an Expert Modified Delphi Consensus. Obes Surg. 2022;32(8):2512–24. [DOI: 10.1007/s11695-022-06124-7] [PMID: 35704259]
19. Arhi CS, Dudley R, Moussa O, Ardissino M, Scholtz S, Purkayastha S. The Complex Association Between Bariatric Surgery and Depression: a National Nested-Control Study. Obes Surg. 2021;31(5):1994–2001. [DOI: 10.1007/s11695-020-05201-z] [PMID: 33537948]
20. Schmitz SM, Alizai PH, Kroh A, Schipper S, Brozat JF, Plamper A, et al. Clinical outcomes after one anastomosis gastric bypass versus sleeve gastrectomy in super-super-obese patients. Surg Endosc. 2022;36(6):4401–7. [DOI: 10.1007/s00464-021-08790-7] [PMID: 34704152]
21. Amirbeigi A, Abbaslou F, Talebpour M, Soroush A, Elyasinia F, Zabihi Mahmoudabadi H, et al. One anastomosis gastric bypass surgery in Type2 diabetes patients with body mass index < 35 kg/m2: A multi-center retrospective cohort study. Ann Med Surg (Lond). 2022;79:104102. [DOI: 10.1016/j.amsu.2022.104102] [PMID: 35860068]
22. Fabricatore AN, Crerand CE, Wadden TA, Sarwer DB, Krasucki JL. How do mental health professionals evaluate candidates for bariatric surgery? Survey results. Obes Surg. 2006;16(5):567–73. [DOI: 10.1381/096089206776944986] [PMID: 16687023]
23. Conceição EM, Fernandes M, de Lourdes M, Pinto-Bastos A, Vaz AR, Ramalho S. Perceived social support before and after bariatric surgery: association with depression, problematic eating behaviors, and weight outcomes. Eat Weight Disord. 2020;25(3):679–92. [DOI: 10.1007/s40519-019-00671-2] [PMID: 30859467]

Мини/једноанастомозно желудачно премошћавање код гојазног болесника са депресијом

Мирослав Д. Илић[1,2], Срђан С. Путник[3]

[1]Институт за плућне болести Војводине, Клиника за грудну хирургију, Сремска Каменица, Србија;
[2]Универзитет у Новом Саду, Медицински факултет, Нови Сад, Србија;
[3]Општа болница Вршац, Служба опште хирургије, Вршац, Србија

САЖЕТАК

Увод Код гојазних болесника који се припремају за метаболичку операцију постоји релативно висока учесталост психијатријских поремећаја, нарочито депресије. Мини/једноанастомозно желудачно премошћавање баријатријска је процедура код које постоји могућност потпуног враћања односа у дигестивном тракту или продужења жучно-панкреасне вијуге уколико болесник почне да добија на телесној тежини.

Представљамо гојазног болесника са депресијом код кога је урађено прво мини желудачно премошћавање у Србији, са периодом праћења од једне године.

Приказ болесника Гојазном болеснику са телесном тежином од 144 килограма и индексом телесне масе 46,8 *kg*/m², као и депресијом као пратећим коморбидитетом, урађено је мини желудачно премошћавање са периодом праћења од једне године. Операција је урађена оригиналном техником уз присуство изумитеља процедуре и са некомпликованим постоперативним током. Болесник је престао да узима психијатријску или било коју другу терапију, потпуно је без тегоба и са радним и социјалним опоравком. После периода праћења од једне године изгубио је 49 *kg*, актуелни индекс телесне масе био је 30,9 *kg/m²*, а проценат вишка губитка телесне масе 73,1%.

Закључак Код гојазних болесника са психијатријским обољењима метаболичка процедура се треба пажљиво одабрати. Мини желудачно премошћавање се показало као успешна баријатријска процедура код нашег болесника, што је довело до ремисије депресије и прекида психијатријске терапије, али и до значајног смањења телесне тежине у периоду од годину дана после операције.

Кључне речи: мини желудачно премошчавање; једна анастомоза; депресија; метаболичка процедура