Austin Journal of Obesity & Metabolic Syndrome

Open Access

Austin Publishing Group

Research Article

Association between Obesity Complications and Delays in Morbid Obesity Surgical Care during the COVID-19 Pandemic in Turkey

Şermet M and Yener O*
İstanbul Medeniyet University Göztepe Educational Hospital, Turkey

***Corresponding author:** Oktay Yener, İstanbul Medeniyet University Göztepe Educational Hospital, Turkey

Received: January 17, 2022; **Accepted:** February 10, 2022; **Published:** February 17, 2022

Abstract

Purpose: The COVID-19 pandemic caused a lockdown in many countries, which induced negative dietary habits and sedentary behavior. Coronavirus Disease 2019 is affecting most countries around the world, including Turkey. In response, all elective surgeries have been postponed. The aim was to evaluate the impact of COVID-19 on obesity-related comorbidities due to morbid obesity surgery delays.

Methods: Retrospective observational case-control study of patients undergoing affiliated University Hospital in İstanbul. The COVID-19 period group was composed of patients operated: from March 1, 2020, to September 1, 2021 (Group A).

The control group was composed of patients operated from January 1, 2018, to March 1, 2020 (Group B). Electronic clinical records were reviewed searching: baseline characteristics, weight and comorbidities evolution, and biochemical values.

Results: A total of 92 patients in the COVID-19 period group and 87 in the pre COVID period group were analyzed. There were no significant differences in baseline characteristics. Most patients were female, 86.93% (12/80) in the COVID-19 period and 83.9% (14/73) in the non-COVID-19 period (p: 0.232), with a mean age of 34.2 years (SD: 12.6) in the COVID-19 period and 33.7 years (SD: 13.5) in the non-COVID-19 period (p: 0.438).

The median BMI was 48.1kg/m^2 (IQR: 36.59-62.5) for the COVID-19 period and 45.2kg/m^2 (IQR: 37.3-59.5) for the non-COVID-19 period (p: 0.200).

There was seen increase risk of obesity-related complications in the Covid-19 period.

Conclusion: Delaying morbid obesity surgeries during the COVID-19 pandemic may increase obesity related complications.

Keywords: Bariatric surgery; COVID-19; SARS-CoV-2; Pandemic

Introduction

The COVID-19 is affecting most countries around the world, including Turkey [1,2]. The coronavirus pandemic has had a radical impact on the functioning of healthcare systems worldwide. The health crisis has also brought new challenges to surgical care, including bariatric surgery. In response to the COVID-19 pandemic, a strategy of postponing elective surgery has been adopted by most surgical societies [3]. Bariatric surgery is one of the first disciplines that have largely implemented this strategy. According to The International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) recommendations, all elective surgical and endoscopic cases for metabolic and bariatric surgery should be postponed in the interim. Furthermore, clinic and hospital visits are not recommended [4], as other surgical and non-urgent oncological procedures have also been recommended to be cancelled. However, promises to resume procedures at the earliest available date once the pandemic subsides have been offered by the healthcare authorities [5]. The extended waiting lists at surgeries will be another important issue after the pandemic.

Bariatric surgery is the most effective and safe treatment for morbid obesity, particularly when conservative measures of weight management have failed, with established safety and significant regression of obesity-associated diseases such as diabetes and hypertension. Globally, more than 800 000 operations performed from 61 countries have been reported by the International Federation for the Surgery of Obesity and Metabolic Disorders [6].

Though ASA is a common method to determine surgical risk, at first glance it appears to be insufficient to determine the risk of morbid obesity surgery [7]. The ASA guidelines published in 2014 accepted morbidly obese patients with body mass index (BMI) ≥40 as ASA III without examining comorbid diseases. In our study, we aimed to compare the preoperative ASA Scoring system, biochemical parameters and comorbid disease between precovid and during

Citation: Şermet M and Yener O. Association between Obesity Complications and Delays in Morbid Obesity Surgical Care during the COVID-19 Pandemic in Turkey. Austin J Obes & Metab Synd. 2022; 6(1): 1028.

Covid pandemic period.

Methods

Study design

Retrospective observational case-control study: We included all consecutive patients who underwent a Gastric Sleeve gastrectomy for morbid obesity in İstanbul Medeniyet University General Surgery Department. The COVID-19 pandemic and lockdown: from March 1, 20120, to September 1, 2021 COVID-19 period was included in these study. The control group was composed of patients who underwent morbid obesity surgery from October 1, 2018, to March 31, 2019 and were unaffected by the COVID-19 pandemic and lockdown (non-COVID-19 period). Morbid obesity surgery was considered for patients with BMI ≥ 40 kg/m^2 or morbid obesity with associated comorbidities. All patients were older than 18 years.

Patients with previous bariatric surgery, those who refused the follow-up or who did not attend the routine follow-up visit, were excluded in this study. Routine gastroscopy was performed all of these patients before sleeve gastrectomy for *H. Pylori* infection and other abnormality as hiatus hernia or something else.

The study was approved by the Turkish Ministry of Health Care Institutional Clinical Research Ethics Committee. NUMBER 27.10.2021/0531.

Operation technic

The operation is performed in reverse Trendelenburg position on an operating table with an angle of 30° and the surgeon takes position between the legs of the patient. Pneumo-peritoneum is performed with the Verses needle in the left upper quadrant. The five-trocar technique is used. The first (10mm) trocar is placed at the upper abdomen 1-2 cm above the umbilicus as an optical trocar. A 5mm trocar is inserted at the sub-xiphoid area for the Nathanson liver retractor. A 15mm trocar is introduced at the right upper quadrant and a 12mm trocar is inserted at the left upper quadrant. Finally, a 5mm trocar is introduced at the left subcostal anterior axillary line. The liver is elevated and this provides adequate visualization of the entire stomach during the gastrectomy. The pylorus of the stomach is then identified and the greater curve of the stomach elevated. An ultrasonic scalpel is then used to enter the greater sac *via* division of the greater omentum. The greater curvature of the stomach is then dissected free from the omentum and the short gastric blood vessels using the laparoscopic ultrasonic scalpel. The dissection is started 5cm from the pylorus and proceeds to the Angle of His.

An endoscopic linear cutting stapler is used to serially staple and transect the stomach staying just to the left and lateral to the endoscope. The gastrectomy is visualized with the endoscope during the procedure. The transected stomach, which includes the greater curvature, is completely freed and removed from the peritoneum through the left flank port incision (Figure 1).

Data were extracted from the hospital medical records (Nucleus Database). Preoperative variables were sex, age, weight, body mass index (BMI), comorbidities (hypertension, type 2 diabetes, and obstructive sleep apnea), American Society of Anesthesiologists classification, and biochemical values. Early postoperative variables were hospital stay and major postoperative complications. All of these patients values were recorded in our hospital database system. Gastrointestinal fistulae and intraabdominal bleeding was noted for major postoperative complications. Also Hospital discharge times were recorded into system. In our study; the preoperative care of a bariatric surgery patient is provided by a multidisciplinary team including surgeons, anaesthetists, specialist nurses, dieticians, psychologists, nutritionists and physiotherapists. Also routine follow-up, biochemical analysis, BMI and other parameters was evaluated after postoperative periods.

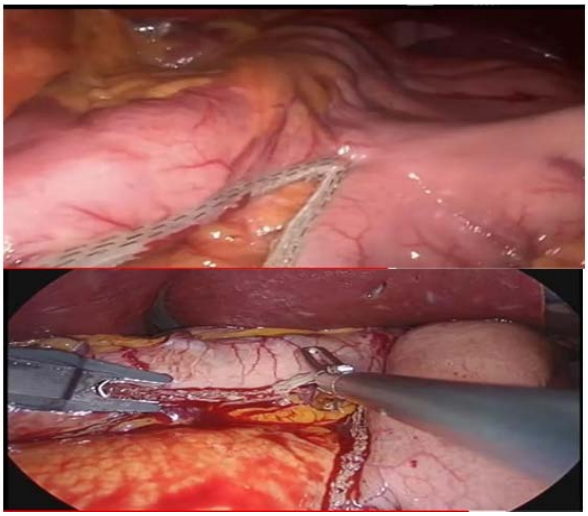

Figure 1: Stapler line in sleeve gastrectomy procedure.

Results

A total of 92 patients underwent Sleeve Gastrectomy in the COVID-19 period, from March 1, 2020, to September 1, 2021. In this group, 6 patients were developed complications. 6 of them intraabdominal bleeding from anastomosis area and gastrointestinal fistulae were seen. These complications were managed by conservative treatment.

In the non-COVID-19 group, 87 patients underwent Sleeve Gastrectomy from January 1, 2018, to March 1, 2020 (Table 1). There were no major complications.

In the Covid 19 period ASA scoring system point was increased due to postponed of morbid obesity surgery (Table 1). Also 12 of these patients comorbidity was developed such as DM Type 2, cardiovascular symptoms, arthropathy, pulmonary diseases and depression.

Thus, 168 patients were suitable for analysis between two groups.

Discussion

Overweight and obesity are defined as abnormal or excessive fat

Table 1: Variability of ASA Scoring system due to postponed surgery in Group A.

ASA Scoring	First anaesthetic evaluation	Second anaesthetic evaluation
ASA 1	43	34
ASA 2	34	39
ASA 3	15	19
Total	92	92

accumulation that can impair health. Once considered a problem of high-income countries, overweight and obesity are now a global epidemic, with tripling of obesity rates since 1975 in low- and middle-income countries and 2.8 million deaths attributed to it each year [9].

Obesity is a result of several factors: genes, diet, levels of physical activity and the surrounding environment, as well as social and cultural factors. Obesity increases the risk of, and is associated with, several comorbidities including cardiovascular disease, hypertension, diabetes, musculoskeletal disorders, obstructive sleep apnea (OSA), dyslipidaemia, gastrooesophageal reflux disease (GORD), cancers, depression and anxiety [10]. Severely obese individuals have increased risk of hospitalization and need for social care, resulting in increased cost of health care. Body mass index (BMI; weight in kilograms divided by the square of height in meters, kg/m^2), is commonly used to classify overweight and obesity in adults [11]. In our study shows that increase patients comorbidities due to postponed morbid obesity surgery.

In literature search shows that More than 90% of the operations were performed laparoscopically, with a median stay of 2 days or less. Average weight loss was 31.1% 1-year after surgery, and 64.2% of patients taking medication for type 2 diabetes no longer needed their medication; this correlated with the amount of weight loss achieved. In our study all the operations were performed laparoscopically. Routine Sleeve gastrectomy was done in two group patients. There were similar reductions in the need for medication for hypertension and dyslipidaemia, no longer required their medication. In this study it is seen an improvement in other obesity-related conditions such as sleep apnea, gastrooesophageal reflux disorder and quality of life, with variations amongst regions and operations [12].

Similar outcomes have been reported by the UK National Bariatric Surgery Register.

In morbid obesity surgery there are 2 main operations technic as follows:

Restrictive

The inflatable gastric band is placed around a small pouch of the stomach to reduce the size of the stomach. Malabsorptive, Roux-en-Y gastric bypass, considered the gold standard of weight loss surgery; Laparoscopic sleeve gastrectomy, performed by removing approximately 80% of the stomach; Biliopancreatic diversion with duodenal switch (BPD/DS), a procedure with 2 components: a smaller, tubular stomach pouch with a large portion of the small intestine bypassed.

The 3 most commonly performed operations are laparoscopic adjustable gastric banding (band), laparoscopic gastric bypass (bypass) and laparoscopic sleeve gastrectomy (sleeve). All lead to weight loss, but they are associated with different problems. In addition, there is currently no evidence/recommendation for a preferred technique [13].

The By-Band-Sleeve study, a UK-based multicentre randomized trial, is currently under way. Its aim is to compare the effectiveness, cost-effectiveness and acceptability of the 3 techniques, 3 years after randomization, on weight loss and a wide range of symptoms and aspects of quality of life. The investigators will also study patient-reported outcomes, nutritional outcomes, short- and long-term surgical complications and value for money [14].

It is also suggested that delaying morbid obesity surgeries during the COVID-19 pandemic period may increase obesity related complications.

References

1. Morgan OW, Bramley A, Fowlkes A, Freedman DS, Taylor TH, Gargiullo P, et al. Morbid obesity as a risk factor for hospitalization and death due to 2009 pandemic influenza A(H1N1) disease. PLoS ONE. 2010; 5: e9694.
2. Lighter J, Phillips M, Hochman S, Sterling S, Johnson D, Francois F, et al. Obesity in patients younger than 60 years is a risk factor for COVID-19 hospital admission. Clin Infect Dis. 2020; 71: 896-897.
3. Hajifathalian K, Kumar S, Newberry C, Shah S, Fortune B, Krisko T, et al. Obesity is associated with worse outcomes in COVID-19: analysis of early data from New York City. Obesity. 2020; 28: 1606-1612.
4. Caussy C, Wallet F, Laville M, Disse E. Obesity is associated with severe forms of COVID-19. Obesity. 2020; 28: 1175.
5. Busetto L, Bettini S, Fabris R, Serra R, Dal Pra C, Maffei P, et al. Obesity and COVID-19: an Italian snapshot. Obesity. 2020; 28: 1600-1605.
6. Zheng KI, Gao F, Wang XB, Sun QF, Pan KH, Wang TY, et al. Obesity as a risk factor for greater severity of COVID-19 in patients with metabolic associated fatty liver disease. Metabolism. 2020; 108: 154244.
7. Bello-Chavolla OY, Bahena-López JP, Antonio-Villa NE, Vargas-Vázquez A, González-Díaz A, Márquez-Salinas A, et al. Predicting mortality due to SARS-CoV-2: a mechanistic score relating obesity and diabetes to COVID-19 outcomes in Mexico. J Clin Endocrinol Metab. 2020; 105: 2752-2761.
8. Spivak H, Hewitt MF, Onn A, et al. Weight loss and improvement of obesity-related illness in 500 U.S. patients following laparoscopic adjustable gastric banding procedure. Am J Surg. 2005; 18: 927-932.
9. Morino M, Toppino M, Bonnet G, et al. Laparoscopic adjustable silicone gastric banding versus vertical banded gastroplasty in morbidly obese patients: a prospective randomized controlled clinical trial. Ann Surg. 2003; 238: 835-842.
10. Dixon AF, Dixon JB, O'Brien PE. Laparoscopic adjustable gastric banding induces prolonged satiety: a randomized blind crossover study. J Clin Endocrinol Metab. 2005; 90: 813-819.
11. Angrisani L, Furbetta F, Doldi SB, et al. Results of the Italian multicenter study on 239 super-obese patients treated by adjustable gastric banding. Obes Surg. 2002; 12: 846-850.
12. Fielding GA, Ren CJ. Laparoscopic adjustable gastric band. Surg Clin North Am. 2005; 85: 129-140.
13. Shen R, Dugay G, Rajaram K, et al. Impact of patient follow-up on weight loss after bariatric surgery. Obes Surg. 2004; 14: 514-519.
14. Mognol P, Chosidow D, Marmuse JP. Laparoscopic conversion of laparoscopic gastric banding to Roux-en-Y gastric bypass: a review of 70 patients. Obes Surg. 2004; 14: 1349-1353.