International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 05 Issue 06 June 2022
DOI: 10.47191/ijcsrr/V5-i6-13, Impact Factor: 5.995
IJCSRR @ 2022
www.ijcsrr.org

Surgical Treatment of Gallstones in Patients Undergoing Gastric Bypass Surgery as a Treatment of Obesity

Syed Usama Arif[1], Hafsa Zia[2], Maryam Nisar[3]
[1,3]Jinnah hospital, Lahore
[2]Women Medical Officer at RHD Manawan Lahore

ABSTRACT
Introduction: Sustained weight loss after gastric bypass is achieved by a combination of gastric restriction and a variable degree of malabsortion and has therefore a greater risk for gallstone development than purely restrictive procedures like adjustable gastric banding.
Objectives: The main objective of the study is to analyse the surgical treatment of gallstones in patients undergoing gastric bypass surgery as a treatment of obesity.
Material and methods: This randomized control trial was conducted in Jinnah Hospital, Lahore during 2021 to 2022. Patients who underwent bariatric surgery for obesity were included in the study. Those who had cholecystectomy before bariatric surgery, those who underwent concomitant cholecystectomy (CC) during bariatric surgery, those with concomittant gall stoness and those who did not attend their follow-up regularly were excluded from the study.
Results: The data was collected from 100 patients and we reviewed records from all patients treated for acute biliary pancreatitis. The average age was 36.43±9.52 years and, the ratio of women/men was 151 (81.6%)/34 (18.4%). Mean BMI was determined as 44.16±5.09. When comorbidities were evaluated, 116 (62.7%) patients had comorbidity, while 69 (37.3%) patients did not.
Conclusion: It is concluded that prophylactic and selective management can be safely performed and the only significant difference with patients not submitted to concomitant cholecystectomy is mostly observed in operative times that are higher in those who do undergo cholecystectomy.

KEYWORDS: Gastric, Obesity, Patients, Surgical, Treatment.

INTRODUCTION

Rapid weight loss after bariatric surgery is one of many known risk factors for gallstone development, along with age, female gender, parity, race, obesity, genetics, very-low-calorie diets, short bowel syndrome, gallbladder motor dysfunction, diabetes, drugs and gastrointestinal surgery, among many others. Traditionally cholecystectomy was indicated only in the presence of both gallstones and symptoms, but recently some have advocated elective cholecystectomy in selected cases in the absence of symptoms and even in the absence of gallstonesv[1].

Sustained weight loss after gastric bypass is achieved by a combination of gastric restriction and a variable degree of malabsortion and has therefore a greater risk for gallstone development than purely restrictive procedures like adjustable gastric banding [2]. The appropriate management of gallstones and gallbladder disease in these patients is still under debate and several therapeutic modalities are used, including simultaneous cholecystectomy to all patients at the time of gastric bypass, regardless of the presence or absence of gallstones and/or symptoms (prophylactic approach), simultaneous cholecystectomy only to patients with gallstones (elective or selective approach) and expectant management with or without the prophylactic administration of ursodeoxycholic acid until symptoms develop [3]. Obesity has become a rapidly increasing public health problem all over the world. This problem has serious consequences due to the comorbid diseases it brings. For this reason, many studies have been conducted on obesity treatment all over the world. Studies have shown that the gold standard in the fastest, permanent and long-term treatment of obesity is bariatric surgery [4]. Bariatric surgical procedures such as Roux-en-Y gastric bypass (RYGB), laparoscopic sleeve gastrectomy (LSG), single anastomotic gastric bypass (OAGB), biliopancreatic diversion-duodenal switch (BPD-DS) and laparoscopic adjustable gastric band (LAGB) are the modern techniques used nowadays. It is a fact that bariatric surgery has benefits for the improvement of comorbid disease [5-7].

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 05 Issue 06 June 2022
DOI: 10.47191/ijcsrr/V5-i6-13, Impact Factor: 5.995
IJCSRR @ 2022
www.ijcsrr.org

OBJECTIVES

The main objective of the study is to analyse the surgical treatment of gallstones in patients undergoing gastric bypass surgery as a treatment of obesity.

MATERIAL AND METHODS

This randomized control trial was conducted in Jinnah Hospital, Lahore during 2021 to 2022. Patients who underwent bariatric surgery for obesity were included in the study. Those who had cholecystectomy before bariatric surgery, those who underwent concomitant cholecystectomy (CC) during bariatric surgery, those with concomittant gall stoness and those who did not attend their follow-up regularly were excluded from the study. Patients' age, gender, pre-operative BMI, pre-operative comorbid diseases, preoperative hepatobiliary ultrasonography (USG) findings, which surgical procedure they underwent, postoperative BMI, postoperative complications, and ultrasound findings 6 months after surgery were recorded. The patients were divided into two groups according to the bariatric surgical procedure. The patients who underwent LSG were included in the first group, and the patients who had laparoscopic RYGB in the second.

Statistical analysis

The data was collected and analysed using SPSS version 20.0. All the values were expressed in mean and standard deviation.

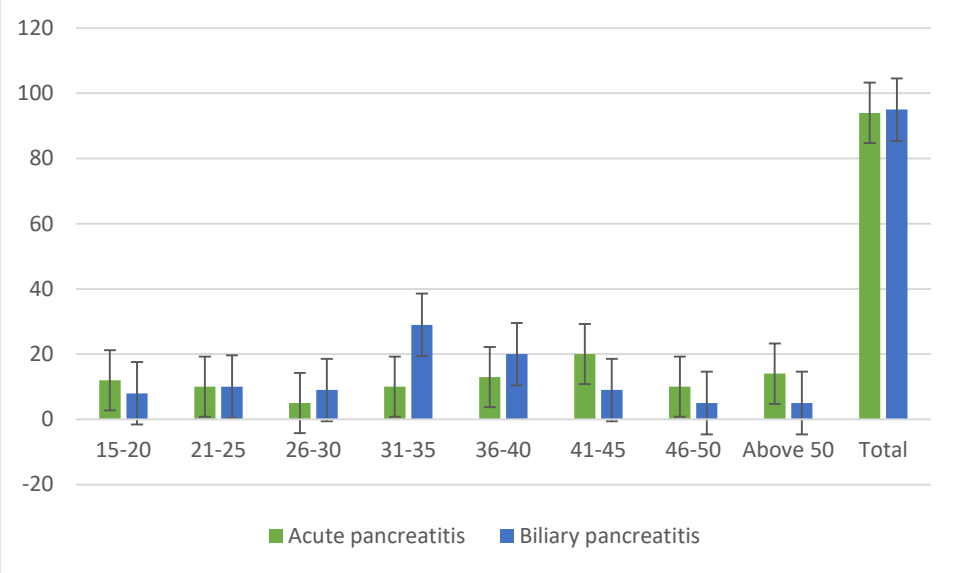
RESULTS

The data was collected from 100 patients and we reviewed records from all patients treated for acute biliary pancreatitis. The average age was 36.43±9.52 years and, the ratio of women/men was 151 (81.6%)/34 (18.4%). Mean BMI was determined as 44.16±5.09. When comorbidities were evaluated, 116 (62.7%) patients had comorbidity, while 69 (37.3%) patients did not. There were no preoperative gallstones in any patient. The mean BMI at the postoperative 6th month was found to be 32.30±3.98. Records were obtained from the hospital database to assess the frequency of acute biliary pancreatitis in silent gall-stones. Acute pancreatitis was diagnosed based on characteristics signs and symptoms, amylase and lipase test or contrast enhanced abdominal computed tomography.

Table 01: Frequency of Acute Pancreatitis and Acute Biliary Pancreatitis in patients

Age range	Acute pancreatitis	% age	Biliary pancreatitis	%age
15-20	12	12.7	08	8.4
21-25	10	10.6	10	10.5
26-30	5	5.31	09	9.4
31-35	10	10.6	29	30.5
36-40	13	13.82	20	21.3
41-45	20	21.27	09	9.4
46-50	10	10.6	05	5.43
Above 50	14	14.89	05	5.43
Total	94	100	95	100

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 05 Issue 06 June 2022
DOI: 10.47191/ijcsrr/V5-i6-13, Impact Factor: 5.995
IJCSRR @ 2022
www.ijcsrr.org



DISCUSSION

It is known that the risk of gallstone formation increases considerably after bariatric surgery, and its incidence varies between 10% and 38%. This also carries the risks of biliary complications [8]. Prophylactic cholecystectomy along with bariatric surgery prevents gallstone formation and stone-related complications. In addition, CC will reduce additional costs and hospitalization [9].

However, simultaneous cholecystectomy is technically difficult during laparoscopic bariatric surgery due to, suboptimal port placement, visceral obesity, difficulty in accessing the gallbladder by the large liver, and prolonged surgery [10]. In conclusion, while the place of prophylactic cholecystectomy in morbidly obese patients remains unclear, the timing of cholecystectomy in these patients remains a concern. Gallstone migration becomes a difficult situation to manage in cases of BPD or gastric bypass (GB). Changes in anatomy prevent standard treatment with endoscopic retrograde choledochopancreaticography [11].

Obesity and rapid weight loss are well-known risk factors for cholelithiasis as approximately one third of patients may develop Gall Stones (GS) after Bariatric Surgery (BS) an observation that still gives rise to concern in the scientific community, furthermore, 10%–15% of all patients will require laparoscopic cholecystectomy (LC) for complaints related to GS [12].

CONCLUSION

It is concluded that prophylactic and selective management can be safely performed and the only significant difference with patients not submitted to concomitant cholecystectomy is mostly observed in operative times that are higher in those who do undergo cholecystectomy.

REFERENCES

1. Olsen JC, McGrath NA, Schwarz DG, Cutcliffe BJ, Stern JL. A double-blind randomized clinical trial evaluating the analgesic efficacy of ketorolac versus butorphanol for patients with suspected biliary colic in the emergency department. Acad Emerg Med. 2008;15:718–22.
2. Duta U, Garg PK, Kumar R, Tandon RK. Typhoid carriers among patients with gallstones are at increased risk for carcinoma of the gallbladder. Am J Gastroenterol. 2000;95:784–7.
3. Cho JY, Han HS, Yoon YS, Ahn KS. Risk factors for acute cholecystitis and a complicated clinical course in patients with symptomatic cholelithiasis. Arch Surg. 2010;145:329–33.
4. Quesada, B. M., Kohan, G., Roff, H. E., Canullán, C. M., & Chiappetta Porras, L. T. (2010). Management of gallstones and gallbladder disease in patients undergoing gastric bypass. *World journal of gastroenterology*, *16*(17), 2075–2079. https://doi.org/10.3748/wjg.v16.i17.2075

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 05 Issue 06 June 2022
DOI: 10.47191/ijcsrr/V5-i6-13, Impact Factor: 5.995
IJCSRR @ 2022
www.ijcsrr.org

5. O'brien PE, Dixon JB. A rational approach to cholelithiasis in bariatric surgery: Its application to the laparoscopically placed adjustable gastric band. *Arch Surg*. 2003;138(8):908–912. doi:10.1001/archsurg.138.8.908
6. Boerlage, T.C.C., Haal, S., Maurits de Brauw, L. *et al.* Ursodeoxycholic acid for the prevention of symptomatic gallstone disease after bariatric surgery: study protocol for a randomized controlled trial (UPGRADE trial). *BMC Gastroenterol* **17,** 164 (2017).
7. Angrisani L, Santonicola A, Iovino P, Formisano G, Buchwald H, Scopinaro N. Bariatric surgery worldwide 2013. Obes Surg. 2015;25(10):1822–32.
8. Plecka Ostlund M, Wenger U, Mattsson F, Ebrahim F, Botha A, Lagergren J. Population-based study of the need for cholecystectomy after obesity surgery. Br J Surg. 2012;99(6):864–9.
9. Boerlage TC, van de Laar AW, Westerlaken S, Gerdes VE, Brandjes DP. Gastrointestinal symptoms and food intolerance 2 years after laparoscopic roux-en-Y gastric bypass for morbid obesity. Br J Surg. 2017;104(4):393–400.
10. Kumaravel A, Zelisko A, Schauer P, Lopez R, Kroh M, Stevens T. Acute pancreatitis in patients after bariatric surgery: incidence, outcomes, and risk factors. Obes Surg. 2014;24(12):2025–30.
11. Kaafarani HM, Smith TS, Neumayer L, Berger DH, Depalma RG, Itani KM. Trends, outcomes, and predictors of open and conversion to open cholecystectomy in veterans health administration hospitals. Am J Surg. 2010;200(1):32–40.
12. Lengyel BI, Panizales MT, Steinberg J, Ashley SW, Tavakkoli A. Laparoscopic cholecystectomy: what is the price of conversion? Surgery. 2012;152(2):173–8.

Cite this Article: Syed Usama Arif, Hafsa Zia, Maryam Nisar (2022). Surgical Treatment of Gallstones in Patients Undergoing Gastric Bypass Surgery as a Treatment of Obesity. International Journal of Current Science Research and Review, 5(6), 1922-1925