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Research Article

Synchronized Cholecystectomy with Laparoscopic Sleeve Gastrectomy is it Benifite or Not?

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Abstract

Background: The wide spread of gall bladder stones in morbid obese individuals is about 19–45 % of cases. Laparoscopic sleeve gastrectomy is so famous save operation. When we deal with patients of gallstones cholecystitis at the time of LSG, there is controversal options to remove the gallbladder or not . We herein report our experience with simultaneous LSG and cholecystectomy (CC).

Aim: To judge the efficiency of synchronous cholecystectomy during laparoscopic sleeve.

Patient and methods: Between May 2019 and October 2021, in zagzgic university surgical department laparoscopic team. We present 50 morbid obese cases, group A; 25 cases of gall stones with morbid obese patients and group B; 25 patients of laparoscopic sleeve patients as a control group.

Results: A total of 50 patients were included in the study. The mean age of the patients was 40.58 ±10.36 years. There was no statistically difference between groups in terms of complications ($p = 0.669$). The statistical difference in the duration of the operation was significant ($p < 0.001$).

Conclusion: It's no significant risk on patients with gall stones to do laparoscopic cholecystectomy during sleeve gastrectomy. We advise to do only if gallstone cholecystis but, when gallstones are absent, it is unnecessary.

Keywords: bariatric; sleeve gastrectomy; cholecystectomy; risks

Introduction:

One of the dangeriou and famous disease affecting higher percent in the female than male is the obesity that produce moe disability and decrease patients life spane also if associated with diabetic or heart disease or hypertention leads to high risk of co morbidity and fatility factor . Theirs direct relation between the fatitly and co morbidity if associated with diabetic type 2 [1-4], so increasr the BMI in diabetic ir heart diseas patient mean increase the rate of fatiliy and more comorbidity. The role of Bariatric surgery (BS) has great sharing in the gross updateing in the differant procedures to minimize the obesity morbidity and little complications decreasing the weight in obesity related disease or complicated by disease like diabetis ,heart dusease and arthiritis [6-8].

Sleeve gastrectomy (SG) is simple operation with little complications that make it famous operation in the last years as low risk operation. we must remember the morbid obesity is associated with cholecystitis and its complications [6]. Obesity is ones of disease that associted with high previlance of cholelithiasis, cholecystitis, and pancreatitis. Nerver forget the gallstone also complicated after trials of body weight loss(regimen) or after SG. theirs is contiversal about to remove the gall bladder during LSG or not as provelactic or not also if patient already had gall stone during LSG we remove or not [5]. So the debate on advantages and disadvantages of the concomitant surgery once more still contiversal . There is yet no consensus regarding the management of gallblader cholecystis during SG some advicate and some agree [6-9].

We will report our experience with concomitant SG and cholecystectomy (SGC) in one sitting.

Patients and methods

Patients undergoing laparoscopic SG in our hispital zagazig university surgical department between May 2019 and October 2021 were included in the study. This a retrospective observational design study was carried out 50 consecutive patients underwent surgical operation

morbid obesity with laparoscopic sleeve, these were randomized either to the group (**A** group 25: laparoscopic sleeve with cholecystectomy and group **B 25** :only laparoscopic sleeve gastrectomy).

Inclusion criteria

1-Patients who above 18 years and who below 60 years.

2-Patients with good organs function so fit for sugery

3-All patient who co operative, mentally srable agree for operation

Exclusion

1- **past history of already cholecystectomy patients**

2- unfit patients.

3- patients refusing to share the reasesrch.

Preoperative care

-All patients are routinely searched out by abdominal US, upper endoscopy and chest X ray.

-CT chest was done for Q covid 19 cases.

-Complete preoperative investigations(routine lab).

Operative techniquie

Patient supie with leg separated general anaesthesia. Operative technique construction was differant according to gropus groups (A and B). The patients were supine and leg separated we gave antiemetic and antibiotic after induction or at the start of operation . we put another trocker under direct vision approximately 15 cm below the xiphoid and 2-3 cm to the left of midline. A 45-degree angled laparoscope is placed through the port into the peritoneal cavity and 12-mm port is placed in the left lateral flank, medial to the edge of the ascending colon as the patient in a supine position that trocker at the same level as the periumbilical port. Next, also theris another trocker;(5mm) is put under the edge of left costal magrin between the xiphoid process and the left flank port. Another two trockers one at epigastric region another at mid epugastic area bith are (12mm). The last is caudal and medial to the previous port. To attain good visualization to the stomach during the operation we must elevate the liver. Also after visualization of the pylorus we must elevate the stomach . We start to visilize the greater omentum good by A ultrasonic scalpel after entering greater sac .then dissection started is 5 cm from the pylorus to freeing the greater omentum from the stomach ciagulate the short gastric blood vessels using the laparoscopic ultrasonic scalpel. . the important of garoscopy angle of His (9.8mm) to visulaize the oesophagus, stomach ,dpylorus and doudenum also bougie dilator also good landmarl along the stomach or lasser curve to performa suitable vertical sleeve gastrectomy .by linear cutting and serials stappling and stomach transection all at the same time but we must put the stomach staying just to the left and lateral to the endoscope. in patient of group A cholecystectomy was carried after completion of the SG, we usually use draing in all patients passing in the stomach bed and gall bladder bed.

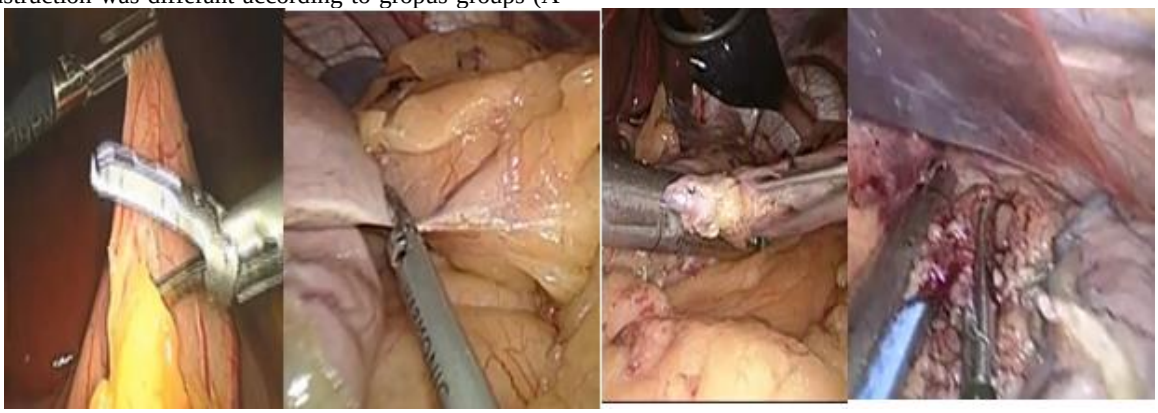

Photo (1): *Sleeve gastrectomy*

Photo (2): *Cholecystectomy*

Gastrographic swallow study to evaluate for leak or stricture was done in the first postoperative day. . Following gastrograffin swallow some oatient had post operative edema that not allow for dye to pass if we let the patient one to two dayes later the edema will be subside and disappesrs , if the patient is medically stable was discharged and follow-up 7-10 days later.

Long follow up 1,3,6,12 months come to follow up. Also routine bariatric labs done after 6 months and one year for minerals ,electrolytes ,anaemia types and all nutritional deficieny . Demographic data (gender, age, and BMI) and preoperative cholelithiasis status were compared.

Statistical analysis

Data were analyzed using Excel and SPSS (Statistical Package for Social Science, Bristol University, UK) version 16 under Microsoft Windows. The description of data was in the form of mean ± SD for quantitative data and frequency and proportion for qualitative data. The analysis of data was carried out to test the statistically significant difference between groups. The Student t-test was used to compare quantitative data (mean ± SD) between two groups. P values less than 0.05 were considered significant. OD was considered if Wexner score was more than 5. Significant improvement in OD or FI was considered as a reduction in Wexner or Pescatori score of at least 25%.

Results

We performed the study on 100 cases morbid obese were classified into two groups group A (laparoscopic sleeve gastrectomy with cholecystectomy), group B (only laparoscopic sleeve gastrectomy) as a control group. Data were collected in table (1).

There was no statistically significant difference between LSG + LC group and SG group in all perioperative data except mean operative time and postoperative hospital stay, which were longer in the SG + LC group than in the SG-only group ($P < 0.001$). Most patients in both study groups were females, between 36 and 45 years,Mean age (range) 40 in both groups . Mean BMI (kg/m2) 43.9 43.

Complications rates in both groups were 4 % in the study group and zero in the control group, There was 1 case (4 %) of bile leakage in the study group. One was due to inadvertent common hepatic duct injury during sharp dissection in a liver-encased triangle of Callot. The surgery was converted to an open procedure with direct suturing of the duct. Residual bile leak was controlled by a drain and gradually ceased with no further intervention. Surgery duration was prolonged by average+_35 mins in the study group and had no effect on hospitalization time. cholecystectomy, Median length of hospital stay was 2 days in both groups.

Variables			LSG + CC(n = 50)(A)	LSG(n = 50)(B)	P-value
Age [years]			40.7 ±8.2	40.5 ±11.1	0.913
BMI [kg/m2]			42.9 (40.8–47.5)	46.8 (44.7–49.2)	0.003
Gender		**Male**	5(20%)	3 (12%)	0.025
		Female	20(80%)	22 (88%)	0.025
Surgery duration [min]			65.7 ±8.5	57.1 ±8.7	< 0.001
Complications	**Gastric leakage**		No	No	
	Others		Bile leak 1 case 4%	No	
Hospital stay	**Same in both groups**		**2 days**	**2 days**	

Table (1): *demographic data and surgery sequlae.*

Discussion

The gallstones in morbidly obese patients is differs between 19 and 45 % and up to 25 % of patients have undergone cholecystectomy before bariatric surgery. Our patients population shows similar scopes (but not in patients number). Numerous revisions periodicals disscussion about the results of concomitant LCS with SG during RYGBP prolong the operation time, Tarantino and colleagues also found that prophylactic cholecystectomy (without gallstone)during RYGBP resulted in prolonged hospitalizati but not associated with higher complication risk. because 18.6 % of the patients that had RYGBP so the provelactic cholecystectomy is not needed during SG [9-12].

The current study settled that simultaneous LC and LSG are safer and not complicated also the same complication if concomitant LCS done only problem the patient stay one day more because long operation time. Also the concomitant operation with patients of already gallstone the results found the same complications in patients with Asymptomatic gallbladder .

Our data appear to previous studies focused on operative time, complications and hospital stay that were not increased alone but concomitant LC added 40.7 min (range 15–110 min). Others found increase 36 min. In operation time And one day stay more and one patient had bile leakage, that requiring open operation to conversion hepatico-jejunostomy and the other leak stopped spontaneously and other need stent because of slipped stappler [7-12].

In our study we found 0.6% increase in surgical sulite infection and concluded that concomitant LC and LSG are safe in gallstone disease but that if the gall stone found before our operation [9-12].

Our series found that concomitant LC with SG increased operative time by 40.7 min which one more hospital stay . We advise to start SG first as itis time consumer need long time but CS need little time to avoid exhausion also if we found bile leak and need for conversion we can use right sucostal for incision(not midline)that give good visulization and avoid delayed wound complications. For Tarantino et al., starting with LC then SG so, he avoid exhustion and good performance [10-12].

However, Papavramidis et al. in their study not prefere that option as he found 6 patients had severe adhesion 17.6% and 4 patient suffering from severe bleeding from bladder be 11.7%. mean operation time open procedure in six patients (17.6%) was due to severe adhesions in four patients (11.7%) and mean operation time 75 ± 12 min, and the mean hospital stay was 2.8 ± 1.1 days. So,They recommended LC + SG at the same time [12].

Finally we recommend the same sitting laparoscopic cholecysectomy with laparoscopic sleeve gastrectomy in morbid obese gall stone patients, it's safer , no harm and favourable outcome.

Conclusion

It's no signifant risk on patients with gall stones to do laparoscopic cholecystectomy during sleeve gastrectomy. We advise to do but when gallstones are absent it is unnecessary.

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