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

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ABSTRACT
Introduction: Sustained weight loss after gastric bypass is achieved by a combination of gastric restriction and a variable degree of malabsorption 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 method: 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 concomitant gall stones 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.
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 concomitant gall stones 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

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


