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Research Article

**TO DETERMINE THE EFFICACY OF EARLY
CHOLECYSTECTOMY SAFE IN MILD BILIARY
PANCREATITIS**¹Dr Uzma Afzal, ²Dr Waqar Iqbal, ³Dr Mamoona Aziz¹Quaid.e.Azam Medical College, Bahawalpur., ²Akhtar Saeed Medical and Dental College, Lahore., ³Ginggangshan University, China.**Article Received:** October 2020**Accepted:** November 2020**Published:** December 2020**Abstract:*****Aim:** The aim of the study was to assess whether early cholecystectomy is safe in mild biliary pancreatitis.****Study design:** A prospective observational study.****Place and duration:** In the Surgical Unit-II of Bahawal Victoria Hospital, Bahawalpur for one-year duration from July 2019 to July 2020.****Methodology:** The study included 50 patients with mild biliary pancreatitis over a 1-year period. The study included patients over 18 years of age who had the first episode of acute benign biliary pancreatitis. Patients over 70 years of age, patients with moderate to severe biliary pancreatitis, pancreatic necrosis, pancreatic fluid build-up, chronic pancreatitis, alcohol abuse, and pregnant women were excluded. Early open cholecystectomy was performed within 48-72 hours from the first hospital admission. The endpoint was surgical complications following early cholecystectomy in benign biliary pancreatitis.****Results:** A group of 50 patients with mild biliary pancreatitis was analyzed for surgical complications. The incidence was 8%, wound infection 4%, subcutaneous abscess 2%, bile leakage 2%. There was no mortality in this study. Further episodes of pancreatitis did not develop after early cholecystectomy due to benign biliary pancreatitis. The hospital stay was short, an average of 13 days.****Conclusion:** It is concluded that early cholecystectomy can be safely performed after a mild attack of biliary pancreatitis without increasing morbidity.****Keywords:** biliary pancreatitis, gallstones, cholecystitis, ERCP, cholecystectomy.***Corresponding author:****Dr Uzma Afzal**

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INTRODUCTION:

Pancreatitis is inflammation and self-digestion of the pancreas. It can be acute or chronic, with any form leading to complications. In 80% of cases, acute pancreatitis is caused by gallstones or alcohol abuse. Pancreatitis secondary to gallstones or slime is referred to as biliary pancreatitis. It is associated with high morbidity (15–50%) and mortality (20–35%). According to the Atlanta classification, acute pancreatitis is divided into two types, mild and severe acute pancreatitis, but this is not an excellent classification as there is a moderate form of pancreatitis. To overcome these shortcomings, various scoring systems have been developed. These scoring systems combine clinical and laboratory parameters to identify patients with severe pancreatitis. The first numerical scoring system proposed by Ranson et al. is based on eleven parameters. Morbidity and mortality increase as the score increases. Most patients with acute biliary pancreatitis suffer from a mild attack and recover with conservative treatment. Patients may experience recurrent attacks of biliary pancreatitis or other biliary events such as acute cholecystitis, acute cholangitis, biliary obstruction, or biliary colic. Cholecystectomy when taking the indicator for mild biliary pancreatitis minimizes the risk of recurrent biliary pancreatitis and other complications of the biliary tract. There is disagreement about the ideal timing of cholecystectomy in mild biliary pancreatitis, but international guidelines recommend early cholecystectomy within the first 72 hours or interval cholecystectomy within 2-4 weeks after discharge from hospital. Severe biliary pancreatitis occurs in 20-30% of cases and is associated with pancreatic necrosis, peripancreatic fluid accumulation, infection, and systemic failure (pulmonary, cardiovascular and renal). All patients with moderate to severe biliary pancreatitis must recover from the acute stage of the disease before surgery. The term cholecystectomy has not been defined in moderate or severe pancreatitis. Infectious complications are common when cholecystectomy is performed earlier than 3 weeks after severe biliary pancreatitis. Early cholecystectomy in severe pancreatitis increases the chance of repeated surgical intervention in the case of persistent fluid reservoirs or contamination of the peripancreatic fluid reservoirs. Acute biliary pancreatitis carries a significant risk of recurrence, so urgent surgical intervention is required. However, with moderate to severe pancreatitis, the principle of early surgical intervention is violated because so much time is spent treating the patient's acute episode. When the patient's condition stabilizes after an acute episode, rapid cholecystectomy is required. The exact risk of

recurrence after moderate to severe pancreatitis is unknown in the literature. Endoscopic retrograde cholangiopancreatography (ERCP) plays an important role in the treatment of acute biliary pancreatitis. Emergency (within 24 hours) ERCP in acute, severe pancreatitis and early (within 72 hours) ERCP in acute mild pancreatitis with laparoscopic interval cholecystectomy performed well with an incidence of 3% and no mortality.

METHODOLOGY:

This study was conducted in the Surgical Unit-II of Bahawal Victoria Hospital, Bahawalpur for one-year duration from July 2019 to July 2020. A series of 50 patients with mild acute pancreatitis caused by gallstones was prospectively evaluated. The study included patients over 18 years of age who had the first episode of acute benign biliary pancreatitis. Patients over 70 years of age, moderate to severe biliary pancreatitis, pancreatic necrosis, peripancreatic fluid accumulation, chronic pancreatitis, alcohol abuse, and pregnant women were excluded. They were received from both emergency and external departments. Laboratory tests and ultrasound were performed in order to diagnose and stratify the patients. Patients with a Ranson score ≤ 3 were designated as mild acute pancreatitis. Demographics, severity of pancreatitis, serum amylase have been reported. The patients were not given any mouth. They were started with intravenous fluids depending on fluid and electrolyte imbalance, Inj Ceftriaxone 2gm once a day, Inj ketoralac 0.5 mg / kg body weight with regular monitoring of vital signs and consumption registration. An immediate abdominal CT scan was recommended for further evaluation or in those patients whose initial abdominal ultrasound was inconclusive. Magnetic resonance cholangiopancreatography (MRCP) was performed to examine the biliary tract in detail. Patients with common bile duct (CBD) stones and showing symptoms of cholangitis were sent to the ERCP for CBD removal. While those with CBD stones, but not showing symptoms of cholangitis, were treated at the same admission with a cholecystectomy. After initial resuscitation and stabilization of the patient's condition, one of the consultants performed the procedure within the first 48-72 hours. The abdomen was opened through a right subcostal incision, paying special attention to the severity of the accompanying pancreatitis. Cholecystectomy was performed without exploring CBD in people who had no preoperative evidence of CBD stones. In all patients with preoperative symptoms of CBD stones, CBD was tested, the stones were removed and then gently washed with normal saline. T-Tube was placed after

exploring CBD. Subhepatic drainage was established in all cases. Since a high addiction unit (HDU) is not available in our hospital, all patients who had difficulty recovering were held in the intensive care unit (ICU) for the first 24 hours after surgery for vital signs monitoring, oxygenation or ventilation. needed. On the first day after surgery, they were transferred back to the ward. They were not administered orally until the intestinal sounds subsided. Antibiotics, analgesics, and I / V fluids were continued. Patients without CBD were discharged on day 4 or 5 after surgery. A T-tube cholangiogram was performed on the 8th postoperative day in all patients whose T-tube was removed after CBD examination and removed following radiographic evidence of patented CBD. Subhepatic drainage was removed after removal of the T-tube after leaving it dry for 24 hours. The primary endpoint was perioperative complications. Secondary endpoints were hospital stay and recurrence of biliary events after early cholecystectomy.

RESULTS:

Early cholecystectomy was performed within 48-72 hours of admission to the hospital. There were 36 (72%) women and 14 (28%) men in this study. Patients ranged in age from 18 to 70 years, with a mean age of 37.56 and S.D \pm 10.97. Initial serum amylase levels ranged from 230-760 IU / L. Other related laboratory tests were within the expected ranges for patients who experienced attacks of biliary pancreatitis. (Table 1) Ultrasound examination showed gallbladder stones in 100% of cases, CBD stones in 37 (74%) and pancreatic enlargement in 40 (80%) of the cases. C T examination confirmed pancreatic enlargement in 47 (94%) cases. Acute inflammation of the thick-walled gallbladder was found in 41 (82%) cases. Inflammation of terminal CBD, duodenum, and nipple was a striking feature in 47 (94%) patients during early surgery. All patients had stones in the gallbladder. However, stones in CBD were noticed in 37 (74%) patients. In 10 (20%) cases, free stones were found in the duodenum. The

pathological stage of pancreatitis noted during early surgery was edema in 47 (94%) patients and apparently normal in 3 (6%) patients. ERCP to collect CBD stones was performed in 4 (8%) patients who were clinically diagnosed with acute cholangitis. Then, an open cholecystectomy was performed on the next available list. In the remaining 33 (66%) patients, CBD was examined for stone removal with cholecystectomy followed by T-tube insertion and subhepatic drainage. In 10 (20%) cases, the abdominal triangle was severely swollen and preparation was not possible, so retrograde cholecystectomy (bottom down) was performed, while in 40 (80%) cases, standard cholecystectomy was performed first by ligating the cystic duct and artery. In 13 (26%) patients who underwent cholecystectomy without CBD examination, the subhepatic drainage was removed on the 2nd postoperative day, and the patients were discharged on the 4th or 5th postoperative day. In all patients with CBD exploration, a T-tube cholangiogram was taken on day 8 postoperatively, the T-tube was removed on day 9 or 10 postoperatively, and a day or two later subhepatic drainage was removed. The only exception was in patients with bile leakage that lasted a little longer. Serum amylase levels dropped sharply to 30% of admission levels within 24 hours postoperatively, while from the 3rd to 4th day of surgery these values dropped to the upper limit of normal. Postoperative complications were noted only in 4 (8%) patients. (Table 2) Wound infection was treated conservatively with antibiotics according to culture and sensitivity, and with wound dressing. The patient was reexamined for diaphragm collection, the thick pus was drained, then washed with normal saline and drained to dry. Bile leakage occurred after retrograde cholecystectomy and drainage was allowed for external bile drainage, which closed pending after 14 days. Patients with early cholecystectomy in mild biliary pancreatitis had no recurrence of pancreatitis or mortality. The hospital stays ranged from 7-16 days.

Table 1: *Laboratory investigations on initial admission*

Investigations	Normal values	Results
S.Amylase	(30-170 IU/L)	230-760 units
TLC	(4000-11000 mm ³ /dl)	9000-16000 cmm/dl
S.Bilirubin	(< 1.0 mg/dl)	0.9 – 3.5mg/dl
SGPT	(9-40 u/l)	45-320 mg/dl
S.Alkaline phosphatase	(60-170 u/l)	270-1560 units
S.Calcium	(8-10mg/dl)	6.4-9.0mg/dl

Table 2: *Post-operative complications*

Complications	Frequency	%age
Wound infection	2	4%
Subphrenic abscess	1	2%
Biliary leakage	1	2%
Total	4	8%

DISCUSSION:

The main cause of acute pancreatitis is gallstones. As long as the stones are in the bile ducts, there is an increased risk of re-admission due to biliary incidents and even potentially fatal acute pancreatitis. In patients after interval cholecystectomy, 18% of biliary episode recurrence was demonstrated. To avoid these complications, stones should be removed from the bile ducts as soon as possible. But the optimal time for cholecystectomy in acute biliary pancreatitis is still controversial. In most cases, patients with acute biliary pancreatitis suffer from a mild attack, recover quickly, are amenable to early cholecystectomy, and may be discharge within 5-10 days. Patients with moderate to severe pancreatitis should recover from clinical acute pancreatitis as some of these patients have pancreatitis so severe that they simply do not survive the cholecystectomy. Second, the risk of infectious complications is very high if immediate cholecystectomy is performed after an attack of severe acute pancreatitis. In addition, when deciding on the timing of cholecystectomy, one should bear in mind the complications of fluid accumulation around the pancreas and pseudocysts to avoid additional procedures and anesthesia in patients with moderate to severe acute pancreatitis. Early cholecystectomy in biliary pancreatitis was thought to be technically more difficult and demanding. Given the nature of peritoneal healing and adhesion formation, studies have shown that early cholecystectomy was technically less demanding and

difficult. Our study also supports the concept of early cholecystectomy due to soft or smaller adhesions. On the other hand, it has been observed that dissection is very difficult in patients with delayed cholecystectomy. Various multicentre and single-center studies have been conducted to see the benefit of early ERCP in resolution or stabilization of acute cholelithiasis-related pancreatitis. It concluded that early ERCP is not needed unless there is associated cholangitis. Rather, it worsens the pancreatitis after contrast medium injection with significant bleeding in a seriously ill patient and possibly causes cholangitis or cholecystitis. Various complications such as wound infection, bacteremia, sepsis, pulmonary embolism, and duodenal valve have been reported in patients after cholecystectomy for acute biliary pancreatitis. There was an overall incidence of 9% and a mortality of 5%. Our study shows an incidence rate of 8%, while no mortality was observed. It has been traditionally practiced that patients should fully recover from all types of acute pancreatitis prior to cholecystectomy. This practice may be justified in the case of moderate to severe biliary pancreatitis, but in mild biliary pancreatitis it may unnecessarily prolong the hospital stay. Aboulian, Armen *et al*; showed that cholecystectomy can be performed within 48 hours of admission, which results in a shorter hospital stay (3.5 days on average). There is a high risk of recurrent biliary events, even fatal pancreatitis with interval cholecystectomy following benign biliary

pancreatitis. Early cholecystectomy during the same admission to hospital can be safely performed.

CONCLUSION:

Early cholecystectomy after mild biliary pancreatitis can be safely performed without increasing perioperative complications, relapses, and hospitalization.

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