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Research Article

EFFICACY OF EARLY CHOLECYSTECTOMY IN MILD BILIARY PANCREATITIS¹Dr Muhammad Wajahat, ²Dr Insa Irum, ³Dr Hassan Mumtaz¹Nishtar Medical University and Hospital, Multan²Wah Medical College, Wah Cantt³Wah Medical College, Wah Cantt

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Abstract:*Aim: The purpose of this study is to assess early cholecystectomy in mild biliary pancreatitis.**Study design: A prospective observational study.**Place and duration: In the Surgical Unit II of Nishtar Hospital Multan for one year duration from February 2019 to February 2020.**Method: The study involved 50 patients with mild biliary pancreatitis and included patients older than 18 years who had the first episode of acute mild biliary pancreatitis. Patients older than 70 years, moderate to severe bile pancreatitis, pancreatic necrosis, peri-pleural fluid collection, chronic pancreatitis, alcohol abuse and pregnant women are excluded. Early open cholecystectomy was performed 48-72 hours after hospitalization. The last point was complications associated with surgery after early cholecystectomy in mild bile pancreatitis. The end point was the surgery related complications after early cholecystectomy in mild biliary pancreatitis.**Results: A series of 50 patients with mild biliary pancreatitis was examined to detect complications associated with surgery. The morbidity rate was 8% with wound infection in 4%, subphrenic abscess in 2% and bile leakage in 2%. No mortality was observed in this study. There were no other attacks of pancreatitis after mild cholecystectomy due to mild bile pancreatitis. The average hospital stay was 13 days.**Conclusion: It was found that early cholecystectomy can be safely performed without increasing morbidity after a mild biliary pancreatitis attack.**Key words: biliary pancreatitis, gallstones, cholecystitis, ERCP, cholecystectomy.***Corresponding author:****Dr. Muhammad Wajahat,**

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INTRODUCTION:

Pancreatitis is inflammation and self-digestion of the pancreas. It can be acute or chronic, with any form that leads to complications. In 80% of cases, acute pancreatitis is caused by the use of gallstones or excessive alcohol. Pancreatitis secondary to gallstones or deposits is known as bile pancreatitis. It is associated with high morbidity (15-50%) and mortality (20-35%). According to the Atlanta classification, acute pancreatitis is of two types: mild and severe acute pancreatitis, but this is not an excellent classification because there is moderate pancreatitis. Various scoring systems have been developed to address these shortcomings. These scoring systems combine clinical and laboratory parameters to identify patients with severe pancreatitis. The first numerical scoring system proposed by Ranson *et al* based on eleven parameters. Morbidity and mortality increase as the result increases. Most patients with acute biliary pancreatitis experience a mild attack and recover completely after conservative treatment. Patients may experience recurrent attacks of pancreatitis or other bile events such as acute cholecystitis, acute cholangitis, biliary obstruction or biliary colic. When accepting the index of mild bile pancreatitis, cholecystectomy minimizes the risk of recurrence of bile pancreatitis and other bile complications. There is no consensus on the ideal time for cholecystectomy in mild biliary pancreatitis, but international guidelines recommend early cholecystectomy within the first 72 hours or cholecystectomy interval within 2-4 weeks after discharge from hospital. Severe bile pancreatitis occurs in 20-30% of cases and is associated with pancreatic necrosis, accumulation of periorbital fluid, infection and systemic (pulmonary, cardiovascular and renal failure). All patients with moderate to severe bile pancreatitis should recover from the acute stage of the disease before surgery. The time of cholecystectomy in moderate to severe pancreatitis is uncertain. Infectious complications are common when cholecystectomy is performed within 3 weeks after severe biliary pancreatitis. In severe pancreatitis, early cholecystectomy increases the possibility of a second surgical intervention due to permanent fluid accumulation or contamination of the pancreatic fluid collection. Acute biliary pancreatitis is associated with a significant risk of recurrence, therefore urgent surgical intervention is necessary. But in the case of moderate to severe pancreatitis, the early rule of surgical intervention is violated, since much time is spent on controlling the patient's acute attack. When the patient stabilizes after an acute attack, 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. Urgent ERCP for severe acute pancreatitis (within 24 hours) and early ERCP (within 72 hours) for mild acute pancreatitis with cholecystectomy with laparoscopic intervals showed good results with 3% morbidity and no mortality.

METHODOLOGY:

The study was conducted in the Surgical Unit II of Nishter Hospital Multan for one year duration from February 2019 to February 2020. A series of 50 patients with mild acute gallstones-induced pancreatitis was prospectively evaluated. The study included patients older than 18 years who had the first episode of acute mild biliary pancreatitis. Above 70 years of age, moderate to severe inflammation of the pancreas, pancreatic necrosis, accumulation of peri-pleural fluid, chronic pancreatitis, alcohol abuse and pregnant women are excluded. Laboratory tests and ultrasound were performed to recognize and stratify patients. Patients with a Ranson score ≤ 3 were designated as mild acute pancreatitis. Demographic data, severity of pancreatitis, serum amylase were observed. Consistent with fluid and electrolyte imbalance, intravenous fluid administration was started once daily using Inj Ceftriaxone 2 gm, 0.5 mg / kg body weight ketorolac injection by monitoring vital signs and recording regular intake. Computed tomography was immediately recommended for further evaluation or in patients in whom the first abdominal ultrasound was uncertain. Magnetic resonance imaging (MRCP) cholangiopancreatography was performed for detailed examination of the bile ducts. Patients with gallstones (CBD) and showing signs of cholangitis were referred for ERCP to remove CBD stone. There was no trace of cholangitis with CBD stone, but with the same application as cholecystectomy. After the first resuscitation and stabilization of the patient's operation, one of the consultants performed it during the first 48-72 hours. The abdomen was opened with the right subcostal incision, with particular emphasis on the severity of accompanying pancreatitis. Cholecystectomy was performed without CBD in those who had no evidence of CBD stones prior to surgery. CBD was examined in all patients with preoperative CBD stone evidence, the stones were removed, and then gently washed with normal saline. After the CBD scan, a T tube was inserted. In all cases hepatic drainage was used. Because our hospital does not have an intensive care unit (HDU), all patients with difficult treatment were held in the intensive care unit (ICU) for the first 24 hours after surgery. They remained empty until the intestinal sounds came out. Antibiotics, painkillers and I / V fluids continued, and patients without CBD were discharged on the fourth or fifth day after surgery. A T-tube cholangiogram was taken on the eighth

day after surgery for all patients who had a T-tube after CB and was performed after the CBD radiographic patent. Sub-hepatic drainage was removed after 24 hours of drying after extraction of the T-tube. The primary endpoint was perioperative complications. The secondary endpoint was hospitalization and recurrence of bile events after early cholecystectomy.

RESULTS:

50 patients were hospitalized with a diagnosis of mild acute biliary pancreatitis. Early cholecystectomy was carried out 48-72 hours after hospitalization. There were 36 (72%) women and 14 (28%) men in this study. Patient's ages ranged from 18 to 70 years old, their average age was 37.56 and SD \pm 10.97. The initial level of serum amylase is in the range of 230–760 IU / L. Other important laboratory tests in patients suffering from biliary pancreatitis are within the expected range. (Table 1) Ultrasound examination revealed gallstones in 100% of cases, CBD stones in 37 (74%) and pancreas enlargement in 40 (80%). CT examination confirmed pancreatic enlargement in 47 (94%) cases. Coarse-grained gallbladder with acute inflammation occurred in 41 (82%) cases. All patients had gallstones. However, 37 (74%) patients had CBD stones. Free stones were found in the duodenum in 10 (20%) cases. The classification of pathological pancreatitis noted during early surgery was edema in 47 (94%) patients and normal in 3 (6%) patients. 4 (8%) patients

diagnosed with acute cholangitis underwent ERCP for recovering CBD stones, followed by open cholecystectomy from the list below. The remaining 33 (66%) patients were examined for CBD for cholecystectomy for recovering stones, followed by T-tube and hepatic drainage. In 10 (20%) cases, the caloric triangle was extremely swollen and sections could not be performed, therefore in 40 (80%) cases retrograde cholecystectomy (from bottom to bottom) was performed. Sub-hepatic drainage was removed on the second day after surgery in 13 (26%) patients who had cholecystectomy without CBD and who were discharged on the fourth or fifth day after surgery. All CBD screening patients received a T-tube cholangiogram on the eighth postoperative day, and the tube was removed on the ninth or tenth postoperative day, and then a day or two after hepatic drainage was removed. The only exception were patients who had bile leakage and lasted a little longer. Serum amylase levels fell sharply to 30% of admission levels within 24 hours after surgery, while these values dropped to the upper limit of normal between the 3rd and 4th day of surgery. Postoperative complications were reported only in 4 (8%) patients. (Table 2) Wound infection was conservatively treated with antibiotics depending on culture and susceptibility to wound healing. There was no recurrence of pancreatitis or mortality in patients with early cholecystectomy in mild biliary pancreatitis. The length of hospital stay is from 7 to 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. While the stones are in the bile ducts, the risk of re-entry increases with bile events and even life-threatening acute pancreatitis. Bile recurrence rates have been shown to be 18% in patients with

December cholecystectomy. To prevent these complications, stones should be removed from the bile ducts as soon as possible. However, the optimal time for cholecystectomy in acute biliary pancreatitis is controversial. In most cases, patients with acute biliary pancreatitis experience a mild

attack, heal quickly, are suitable for early cholecystectomy, and can be discharged within 5-10 days. Patients with moderate to severe pancreatitis should recover from the clinical condition of acute pancreatitis, because some of them have pancreatitis so severe that they cannot survive cholecystectomy. Secondly, if rapid cholecystectomy is performed after an acute attack of acute pancreatitis, the risk of infectious complications is very high. In addition, fluid intake from the pancreas and pseudocyst complications should be considered when deciding on the time of cholecystectomy to prevent additional surgery and anesthesia in patients with moderate to severe acute pancreatitis. In billiard pancreatitis, early cholecystectomy was technically more difficult and demanding. Given the nature of peritoneal healing and adhesion formation, one study found that early cholecystectomy is technically less demanding and difficult. Our study also supports the concept of early cholecystectomy due to soft or small adhesions. On the other hand, dissection has been found to be significantly difficult in patients with late cholecystectomy. Various multi-center, single-center studies have been conducted to see the benefits of early ERCP in solving or stabilizing acute cholelithiasis-related pancreatitis. Early ERCP was found to be unnecessary unless associated with cholangitis. On the contrary, this is aggravated by pancreatitis with contrast with pronounced bleeding in serious patients and possibly causing cholangitis or cholecystitis. Various complications such as wound infection, bacteraemia, sepsis, pulmonary embolism and duodenal fistula have been observed in patients after cholecystectomy due to acute billiard pancreatitis. Although an overall incidence rate of 9% was observed, the mortality rate was 5%. Although our study showed an incidence rate of 8%, no mortality was observed. It has been traditionally practiced that patients should recover completely from all types of acute pancreatitis before cholecystectomy. This practice may be justified in the case of moderate to severe bile pancreatitis, but mild bile pancreatitis may unnecessarily prolong hospital stay. Aboulian, Armen *et al*. They showed that cholecystectomy can be performed within 48 hours after hospitalization and shortening hospital stay (average 3.5 days). After mild billiard pancreatitis, there is a high risk of recurrence of billiard episodes, including fatal pancreatitis with interrupted cholecystectomy. Early cholecystectomy can be safely performed during the same hospitalization.

CONCLUSION:

After benign biliary pancreatitis, early cholecystectomy can be safely performed without

increasing perioperative complications, relapse rates and hospitalizations.

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