

COMBINED LAPAROSCOPIC CHOLECYSTECTOMY AND CAESARIAN SECTION: SAFETY AND FEASIBILITY.

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ABSTRACT:

INTRODUCTION: Cholelithiasis is quite common in women of child bearing age. We planned a study to evaluate the safety of combined laparoscopic cholecystectomy and lower segment caesarean section (LSCS).

AIMS AND OBJECTIVES: To study feasibility and safety of cholecystectomy at the time of caesarean section.

MATERIALS AND METHODS: This was a prospective hospital based observational study and included 50 consecutive pregnant females who underwent a combined LSCS and were having symptomatic cholelithiasis. Patient demographics and a detailed history was taken. After completing LSCS, the rectus sheath was closed and a standard four port laparoscopic cholecystectomy was performed. Intraoperative parameters and postoperative morbidity were noted.

RESULTS: Laparoscopic cholecystectomy was combined with LSCS under general anesthesia in all the patients. The mean age of patients was 32.28 ± 4.67 years. Surgeries were completed in a mean operating time of 78.54 ± 15.21 minutes. There were no intraoperative or major postoperative complications. No extra antibiotics or analgesics doses were needed. Most of the patients were discharged on the third postoperative day.

CONCLUSION: In addition to being safe and effective, a combination technique of laparoscopic cholecystectomy with LSCS provides the benefits of minimal access surgery for gallstone disease. Apart from minimising the separation of mother and newborn caused by reoperation, it also reduces the risk of developing acute cholecystitis while the patient is waiting for cholecystectomy.

Key Words: Laparoscopy; LSCS; Pregnancy; Caesarean; Combined.

INTRODUCTION:

Gallstones affect women three times more than men, and cholecystectomy is the most common major surgery worldwide. The occurrence of gallstones has increased significantly as more individuals get abdominal ultrasound imaging for a number of reasons [1-3]. While obstetric ultrasound detects gallstones in 2-4% of pregnant patients, symptomatic cholelithiasis and cholecystitis occur in only five to ten of every 10,000 infants [2]. The majority of patients can be properly managed with nonoperative care. However, surgery is essential in certain patients due to refractory symptoms or consequences. Lower segment caesarean section (LSCS) is a popular surgical treatment for childbirth. It has been demonstrated that

cholecystectomy for gallstones during a laparotomy for an unrelated illness may be appropriate in some cases since such individuals are at a higher risk of acquiring symptoms [1-6].

Several treatments, including gynaecological procedures, hernia repair, appendectomy, and cholecystectomy, have been performed during caesarean section [7-9]. Outside of few case series published, the combination of laparoscopic cholecystectomy with LSCS is essentially unreported [10-13]. The present study was planned to bridge this knowledge gap with the aim to evaluate safety and feasibility of combined laparoscopic cholecystectomy with LSCS.

MATERIAL AND METHODS:

From November 2021 to November 2023, this study was conducted in a tertiary care hospital of Kashmir. A total of 1216 women in all were registered for prenatal treatment. At or before the first prenatal ultrasound, 65 patients (5.34%) were determined to have gall bladder disease; 50 of these women were scheduled for laparoscopic cholecystectomy at the time of caesarean section. Participants in the study were excluded if they refused to undergo a combination treatment, had concomitant pulmonary or cardiovascular diseases, acute cholecystitis during the third trimester, a gall bladder mass, or had tests that suggested they may have common bile duct stones.

The 1964 Helsinki Declaration and its following amendments, as well as any related ethical norms, guided every procedure carried out for this investigation. A written and informed consent was taken from the patients after describing to them the study protocol. The data thus obtained was tabulated and analysed using IBM SPSS version 28 for Macintosh (Armonk, NY: IBM Corp, Released 2021). An approval from the institutional ethical committee was obtained for the purpose of this study.

Intravenous preventive antibiotics were administered to every patient. Under general anaesthesia, a Pfannenstiel or lower midline abdominal incision was made prior to performing LSCS. After the uterus was closed, the upper abdominal anatomy was evaluated through the caesarean incision. To acquire a close-up view of the target spot, a telescope was also inserted through the caesarean incision. The examination of the upper abdomen was made possible by the easy retraction of the flexible abdominal wall. Closing the uterus was followed by the surgeon's left hand controlling the first 10-mm trocar, which was positioned at the umbilicus under direct vision and the caesarean incision was closed. After the laparotomy incision was closed, carbon dioxide was insufflated into the abdominal cavity, with a pre-set insufflation pressure of 12–13 mm Hg. End tidal carbon dioxide was continuously monitored during the procedure and laparoscopic cholecystectomy was performed in the standard manner. Each patient had a little 14 Fr tube drain inserted into the subhepatic area. After the procedure, all patients were urged to walk around eighteen hours later. Age, parity, concomitant conditions, biliary symptoms, laboratory and radiological investigations, conversion rate, operative findings, intraoperative complications, duration of hospital stay following the day of the operation, postoperative complications, mortality, and pathological findings of the gallbladder were among the data recorded.

RESULTS:

Laparoscopic cholecystectomy was combined with LSCS under general anaesthesia in 50 patients. The mean age of patients was 32.28 ± 4.67 years. Surgeries were completed in a mean operating time of 78.54 ± 15.21 minutes. The mean extra time taken after LSCS for completion of cholecystectomy was 28 ± 7.83 minutes. Individuals diagnosed with gallstone disease had a history of biliary symptoms, including dyspepsia and/or episodic upper abdominal pain in 38 cases (76%), and acute cholecystitis in the early stages of the second trimester in 12 cases (24%) of women. During their pregnancies, all patients who experienced symptoms were treated conservatively. Intraoperative findings included flimsy omental

adhesions in 32 (64%) patients, and dense adhesions in calots, distended gallbladder, and mucocele in six (12% each) of the patients.

No conversions to an open cholecystectomy occurred. There was no loss of pneumoperitoneum during the procedure and all the cholecystectomies proceeded uneventfully. There were no complications during or after the procedure, with the exception of a moderate postoperative caesarean wound infection in 2 (4%) patients that required daily dressing changes, and prolonged postoperative paralytic ileus in 1 (2%) patient, which was again managed conservatively. In our series, there were no fatalities. No extra antibiotics or analgesics doses were needed. Most of the patients [42 (84%)] were discharged on the third postoperative day. The histopathology of the cholecystectomy specimens revealed varying degrees of inflammatory and fibrotic changes.

DISCUSSION:

Due to increased bile cholesterol saturation and decreased gallbladder mobility, gallstones are more frequent during pregnancy. Maternal morbidity, readmission, premature birth, and neonatal morbidity have all been linked to gallstone disease during pregnancy. Gall bladder disease affects 0.05% – 0.3% of pregnant women, and 3.5% – 10% of pregnancies result in asymptomatic gallstones. Nevertheless, 1 in 10,000 pregnancies require a cholecystectomy [1-7]. The traditional approach has been to manage majority of pregnant patients with symptomatic gall bladder disease conservatively, with selective cholecystectomy performed in the postpartum phase [4-6]. A combination operation saves the need for a separate cholecystectomy and prevents readmission. With benefits of single anaesthesia, single hospital stay, this method saves time, money, and inconvenience for the patient. It also prevents the mother and newborn from being separated, which is a drawback of reoperation. With these things in mind, the current study was conducted to establish the safety and feasibility of combining laparoscopic cholecystectomy with LSCS.

The two main concerns in the event that a pregnant patient needs abdominal surgery are the finest surgical technique and the best after care. The sole alternative available in the past was laparotomy. An increasing number of laparoscopic procedures have been performed during pregnancy in recent years. Pregnancy-related abdominal surgeries can have a variety of negative effects on the mother and/or foetus. These consist of higher risk of thromboembolic disease, effects of postoperative medications, altered uteroplacental blood flow, teratogenic effects of anaesthetic drugs and disturbed homeostasis in the foetus and mother, and increased risk of incisional hernias. Comparing laparoscopic surgery versus open abdominal surgery, there may be benefits. These include less stress and air exposure for the uterus, quicker recuperation and mobilisation of the mother, less discomfort, greater cosmesis, enhanced surgical exposure in some circumstances, and a lower chance of incisional hernias [9-13].

A novel strategy combines laparoscopic and open general and gynaecological surgery treatments in an era where surgical costs have become increasingly significant. Many case series have demonstrated the safety and feasibility of combining laparoscopic cholecystectomy with LSCS [9-11,13]. In the current study, all patients underwent a combined treatment, and it was found that, in appropriately chosen low-risk patients with a negligible probability of problems, laparoscopic cholecystectomy can be safely conducted at the time of caesarean section. A young patient in good health who has an easy caesarean section and no coexisting medical issues is a suitable prospect. However, more research is required to confirm the safety, particularly in obese patients with concomitant illnesses, those with problems from LSCS, those with acute cholecystitis in the early third trimester, and those with related or suspected CBD stones. Thus far, delayed laparoscopic cholecystectomy has proven to be more beneficial for these subset of patients.

CONCLUSION:

The current study concludes that, in addition to being safe and effective, a combination technique of laparoscopic cholecystectomy with LSCS provides the benefits of minimal access surgery for gallstone disease. With additional tiny port site incision, single anaesthesia, and single hospital stay, the combination treatment provides significant time, hospital stay, expense, and convenience benefits. Apart from minimising the separation of mother and newborn caused by reoperation, it also reduces the risk of developing acute cholecystitis while the patient is waiting for cholecystectomy.

REFERENCES:

1. Pelosi 3rd MA, Pelosi MA, et al. Laparoscopic cholecystectomy at cesarean section. A new surgical option. *Surg Laparosc Endosc*. 1997;7:369–372.
2. Bernard A, Butler L, et al. Concurrent cesarean section and hand port-assisted laparoscopic cholecystectomy: a safe approach. *Surg Laparosc Endosc Percutan Tech*. 2005;15:283–284.
3. Julian B, Bickerstaff KI, et al. Benign diseases of the biliary tract. In: Morris PJ, Malt RA. ed.: *Oxford Textbook of Surgery*, vol. 1 Oxford: Oxford University Press; 1994. pp. 1209–1239.
4. Griffin S, Abbassi N, et al. Combined abdominal hysterectomy, cholecystectomy and appendectomy; a study of 25 cases in Abbottabad. *J Ayub Med Coll Abbottabad*. 2006;18:57–59.
5. Bukovsky I, Schneider D, et al. Sterilization at the time of caesarean section: Tubal ligation or hysterectomy? *Contraception*. 1983;28:349–356.
6. Kammerer WS. Nonobstetric surgery during pregnancy. *Med Clin North Am*. 1979;63:1157–1163.
7. Bennett GL, Balthazar EJ. Ultrasound and CT evaluation of emergent gallbladder pathologies. *Radiol Clin North Am*. 2003;41:1203–1216.
8. Ochsenbein-Kölble N, Demartines N, et al. Cesarean section and simultaneous hernia repair. *Arch Surg*. 2004;139:893–895.
9. Sungler P, Heinerman PM, et al. Laparoscopic cholecystectomy and interventional endoscopy for gallstone complications during pregnancy. *Surg Endosc*. 2000;14:267–271.
10. Pelosi MA, Pelosi 3rd MA, et al. Hand-assisted laparoscopic cholecystectomy at cesarean section. *J Am Assoc Gynecol Laparosc*. 1999;6:491–495.
11. Mushtaque M, Guru IR, et al. Combined lower segment caesarean section and cholecystectomy in single sitting – Our initial experience. *J Turkish-German Gynecol Assoc*. 2012;13:187–190.
12. Ibiebele I, Schnitzler M, et al. Outcomes of Gallstone Disease during Pregnancy: a Population-based Data Linkage Study. *Paediatr Perinat Epidemiol*. 2017;31:522.
13. Mushtaque M, Khanday SA, Junaid S, Kema AR, Guru IR, Malik TN. Laparoscopic cholecystectomy at caesarian section. *World J Laparosc Surg*. 2019;12(1):25-28.