Laparoscopic Clearance of Giant Common Bile Duct Stones in Late Pregnancy

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ABSTRACT

Introduction: The third trimester of pregnancy has long been considered a suboptimal time frame for undergoing biliary laparoscopic procedures, primarily because of maternal-fetal risks and technical issues. We present the case of a 34-year-old woman at 32 weeks' gestation who underwent laparoscopic common bile duct (CBD) exploration and cholecystectomy to treat symptomatic cholelithiasis and giant choledocholithiasis.

Case Description: The patient was complaining of right upper quadrant pain, nausea, and vomiting. Physical examination revealed tenderness and Murphy's sign. Liver function test results showed a pattern of obstructive jaundice, and biliary ultrasonography confirmed dilation of the CBD. Endoscopic retrograde cholangiopancreatography with sphincterotomy was unsuccessful at clearing the CBD because of the size of the stones, thus a decision was made to perform a laparoscopic CBD exploration with cholecystectomy. The patient's postoperative course was uneventful, and she delivered a healthy girl at 37 weeks.

Conclusion: This report provides insight regarding the role that laparoscopy may play in the management of CBD stones in late pregnancy when other nonoperative alternatives have proven unsuccessful.

Key Words: Laparoscopic common bile duct exploration, Choledocholithiasis, Pregnancy, Third trimester.

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INTRODUCTION

Compared with open surgery, laparoscopic biliary surgery in pregnant women offers all of the advantages of laparoscopic surgery in nonpregnant patients: reduced hospital stay, decreased narcotic use, and a quick return to a regular diet, among other benefits.[1] It is a well-respected surgical concept that the second trimester is the best period for surgery, because during this period organogenesis is complete and the uterus is not big enough to obliterate the surgical view for the laparoscopic approach. It has also been recognized that cholecystectomy during the second trimester is safe for both the mother and the fetus.[2–4] The indications for surgery in pregnancy are severity of symptoms, obstructive jaundice, acute cholecystitis refractory to medical treatment, and peritonitis.[5]

CASE REPORT

A 34-year-old pregnant woman at 32 weeks' gestation complaining of right upper quadrant (RUQ) pain, nausea, and vomiting presented to the emergency department. Physical examination revealed a middle-aged woman with RUQ tenderness and Murphy's sign. Blood test results were consistent with conjugated bilirubinemia. Abdominal ultrasonography revealed signs of chronic calculous cholecystitis with a 1.8-cm stone obstructing the Hartman's pouch. There were also signs of extrahepatic biliary tree dilation. The patient

underwent an endoscopic retrograde cholangiopancreatography with sphincterotomy (ERCP+ES) while in the left lateral decubitus position with her midsection protected by a lead apron. ERCP was unsuccessful because of the presence of two large stones, even though an extended ES was done. A 10-Fr × 12-cm prosthesis was then inserted to transiently palliate the common bile duct (CBD) obstruction. Forty-eight hours later, the patient continued to have intermittent but temporarily relieved colic-type pain; thus a decision was made to perform a laparoscopic cholecystectomy with CBD exploration.

The procedure was performed using the classic American technique.[6] An approximate 1-cm distal choledochotomy was made, and a Fogarty catheter was advanced until the stones were dislodged and retrieved later by "milking" the CBD. A choledochoscopy could not be done. The choledochotomy was closed with interrupted 4–0 Vicryl stitches over a 16-Fr T tube, which was exteriorized through the midclavicular trocar. Overall, the operative time was 159 minutes, bleeding was estimated to be approximately 100 mL, and there were no intraoperative complications.

The patient was discharged on the fourth postoperative day; her follow-up was uneventful. She had a healthy baby girl 5 weeks later by cesarean delivery, owing to oligohydramnios. Cholangiography done one week later confirmed the absence of retained stones, and the tube was then safely removed with no complications.

DISCUSSION

Choledocholithiasis during pregnancy may result in cholangitis or pancreatitis, potentially fatal complications for the mother and fetus. In a pregnant woman with gallstones and CBD stones, a major decision to be made is the choice of procedure to clear the CBD of stones. The second decision is about timing and the approach to cholecystectomy. Nonetheless, there is concern because surgery under these conditions has shown an increased risk for fetal compromise.[7]

Data concerning feasibility and safety of major biliary procedures performed laparoscopically in pregnancy are scarce.[8–10] The reasons that biliary laparoscopic procedures in late pregnancy were once regarded as potentially hazardous, according to the experts,[11,12] are: (1) the normal course of pregnancy may be jeopardized, with risk of preterm labor/delivery; and (2) the operative field may be obliterated by the growing uterus. In relation to the first concern, several studies have documented the safety of laparoscopy in the treatment of biliary and other nonobstetric complications during late pregnancy.[13] With regard to the presumed technical issues that one might face in late pregnancy, we did not encounter any problems in the performance of CBD exploration in a pregnancy as advanced as the thirty-second week despite the fact that we placed the optic port at the level of the umbilicus. The introduction of the umbilical port was done using the Hasson technique, preceded by digital manipulation of the enlarged uterus to identify a clear space for us to direct the sleeve.

CONCLUSION

This report provides some insight regarding the role that laparoscopy may play in the management of CBD stones in late pregnancy when other nonoperative alternatives have failed. Further prospective studies are needed to support this contention.

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