

Conservative Treatment of Recognized Laparoscopic Colonic Injury

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ABSTRACT

Injuries associated with insufflation needles and trocar insertion have been reported extensively in the literature. Two millimeter laparoscopy is a more recent technique that has been used for laparoscopic cholecystectomy. This case illustrates a 2 mm trocar colonic injury, recognized during a routine laparoscopic cholecystectomy; management was non-operative and ambulatory, with a successful outcome.

Key Words: Laparoscopy, Colonic injury.

INTRODUCTION

Laparoscopic cholecystectomy has been proven to be a safe and effective procedure for treatment of gallstones; however, complications still occur.^{1,2} Gastrointestinal injuries are one of the most common complications reported, of which many are related to blind insertion of a Veress needle or to trocar insertions.¹⁻⁹ A large number of these injuries go unrecognized at the time at which they occur, probably sealing off promptly, and remain inconsequential.³⁻⁴

CASE REPORT

We report the case of a 45-year-old female who presented to the surgeon's office with a history of recurrent biliary colic. Ultrasound confirmed gallstones, and liver function tests were normal. The patient had no significant previous medical history and no previous surgeries.

An elective laparoscopic cholecystectomy was planned. The patient was taken to the operating room and the surgery proceeded routinely. A Veress needle through a 2 mm trocar was introduced through the infraumbilical fold. The saline drop test was negative, and no technical difficulty was encountered. After connecting to CO₂ insufflation, a higher than expected intra-abdominal pressure was noticed than normal, so the 2 mm laparoscope was introduced to verify the position of the trocar. Upon passing the scope through the trocar, solid stool was visualized in the colon, probably transverse. The trocar was removed and discarded. Using the open Hasson technique through an epigastric incision, the peritoneal cavity was entered and visualization was done using a 10 mm laparoscope. No evidence of injury to the colon was identified. Diligent search at all areas of the colon was done, including mobilization of the omentum and looking for paracolic hematomas. No intestinal contents or blood were seen. No evidence of paracolic hematoma was found. The decision was therefore to proceed with the laparoscopic cholecystectomy, which was uneventful. The colon was inspected carefully once again at the end of the procedure with still no evidence of injury. The patient was discharged home postoperatively, as planned. She was given an oral antibiotic regimen and clear instructions were given to her to seek immediate medical attention in the event of progressive abdominal pain or fever. Postoperative follow-up was done with daily phone calls

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to the patient for a week. She was seen in the office one week after the surgery, and she had no complaints. She was tolerating a regular diet and having normal bowel movements.

DISCUSSION

The 'blind' introduction of a Veress needle followed by a 10 mm trocar during laparoscopic procedures has been associated with a high complication rate and a mortality rate that ranges from 0.05-0.2%.^{1,5-7}

Most severe complications that have been described in the literature are vascular injuries. Bowel injuries have also commonly been described, with an incidence of 0.1-0.4% of all reported cases.^{1,5} Intestinal perforation can occur either during insertion of an insufflation (Veress) needle, umbilical trocar insertion, secondary to thermal injury or during tissue dissection.^{1,3,5,8}

Insufflation needle injuries probably occur more often than are diagnosed and reported. Reich reported that most of the bowel injuries from Veress needles can be managed conservatively with good outcome.³ The emanation of foul smelling gas through the needle is an important diagnostic sign. Other evidence of bowel injury are return of small or large bowel contents through the insufflation needle, high insufflation pressures or asymmetrical distension of the abdomen.^{3,4}

This case reports a well-known complication of blind insertion of a Veress needle (in this case with the 2 mm trocar). We were fortunate that this injury was recognized immediately by direct visualization with the 2 mm laparoscope and the fact that the patient had a successful outcome. Another way to deal with this case intraoperatively is to leave the 2 mm trocar inside the colon and enter the epigastrium by open technique and remove it under direct vision, to assess the injury.⁹

We conclude that conservative management of laparoscopic colonic injuries, secondary to a 2 mm trocar or insufflation needle, with no gross contamination, is feasible and may be an alternative to consider based on the outcome of this case and others reported in the literature. However, we recognize that a more conservative approach would be to admit the patient for observation for 48-72 hours.

Open Hasson technique also is recommended to reduce, although not completely prevent, Veress related injuries.

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