Penrose Drain Migration after Laparoscopic Surgery

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Abstract- Laparoscopy has made a revolution in surgical procedures and treatment of various diseases but its complications are still under investigation. Intra-abdominal visceral and vessel injuries, trocar site hernia, and leaving foreign bodies into the peritoneal cavity are among some laparoscopic surgery complications. This is a rare report of Penrose drain migration following incomplete laparoscopic Fundoplication surgery. The patient was a 47-year-old woman, who was a candidate for Touplet Fundoplication via laparoscopic approach due to refractory gastro-esophageal reflux disease (GERD). While wrapping a Penrose drain around the esophagus, the patient had a cardiorespiratory arrest. Attempts to remove the Penrose drain were unsuccessful and the surgical procedure was terminated due to patient's condition. Four months later, after a long period of dysphagia and abdominal pain, the Penrose drain was defecated via rectum.

Key words: Laparoscopy, Intraoperative complications, foreign-body migration

Introduction

Laparoscopy is evolving for a wide range of surgical procedures although it was initially confined to cholecystectomy and exploratory laparoscopy. Considering the increasing rate of using this technique, its complications are not well known. Incidence of Laparoscopy complications which can present as early or late events is about 1.1%-5.2% for minor surgeries and 2.5% – 6% for major surgeries (1). Intra operative and post operative complications may be attributable to the conduct of anesthesia, specific position of the patient during the surgery, pneumoperitoneum induction, trocar insertion and using mechanical or electro surgical instruments during the operation. Internal organ perforation, hernia, and leaving foreign bodies in the peritoneal cavity are among other laparoscopic surgery complications (2-5). Previous studies have indicated that most reported foreign bodies which have been left out in the peritoneal cavity were related to surgical clips and their migration to hollow viscus or adjacent lumens (6). This is a rare report of Penrose drain migration following incomplete laparoscopic Fundoplication surgery.

Case Report

The patient was a 47-year-old woman with a prolonged history of retrosternal pain and previous coronary balloon angioplasty and continuing Aspirin treatment since 3 years ago. An esophageal manometry was indicative of gastro-esophageal reflux and ineffective esophageal body peristaltic contractions. Hypotensive low esophageal sphincter (9.6 mmHg), normal peristaltic waves (43%), no hypotensive waves and 14% hypertensive waves was reported. Due to ineffective Omeprazole therapy, 20 mg twice daily, and following proper cardiac consultation and preparation of the patient, Toupet Fundoplication via laparoscopic approach and in deep reverse Trendelenburg position was performed on Sep 25th 2005. Following clear exposure of diaphragmatic crura, a Penrose drain was wrapped around the abdominal esophagus. The patient underwent cardio respiratory arrest during dissection of the cardia and putting the drain on tension. She was immediately turned to supine position and cardiopulmonary resuscitation was performed while emptying the intra-peritoneal gas. Considering the probable diagnosis of tension pneumothorax, bilateral chest tubes were inserted for the patient.

During a 40-minute period, the patient suffered three episodes of cardiac arrest but finally the CPR process was successful and the patient’s heart rhythm returned to normal sinus rhythm. The continuation of the laparoscopic procedure was impossible and despite extending the umbilical incision, attempts to remove the Penrose drain were failed.
Penrose drain migration in the gastro-intestinal tract following laparoscopic or open surgery has not been reported so far.

In this case it seems that the patient’s abdominal pain prior to defecation was related to the drain migration and the probable local peritonitis.

References