Case Report

Laparoscopic Removal of a Retained Intra-abdominal Ribbon Malleable Retractor After 14 Years

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ABSTRACT

We report a case of the laparoscopic removal of a 33 × 5 cm ribbon malleable retractor retained intra-abdominally for 14 years. Plain films revealed a radiopaque object in the midline abdomen consistent with a metallic device. This was a ribbon malleable retractor which was subsequently removed laparoscopically without complication. Laparoscopic surgery should be considered in the removal of foreign bodies from the abdominal cavity.

INTRODUCTION

A retained surgical instrument is a possible complication of surgery. In the literature, instances of retained foreign bodies are under-reported secondary to issues associated with litigation. Our case demonstrates the usefulness of laparoscopy in the removal of retained metallic surgical devices.

Since the advent of laparoscopy, a variety of surgical items have been removed from the abdominal cavity, including sponges (textilomas), tubing, and surgical instruments such as spatulas.1 One of the limiting parameters in the application of laparoscopic surgery to the removal of foreign bodies is the size of the item. Our case documents the removal of the largest such retained metallic foreign body through minimally invasive techniques to be reported in the literature. Our case also documents the longest period of time a surgical instrument has been retained, 14 years, and then subsequently removed through minimally invasive techniques.

CASE REPORT

A 29-year-old man was referred for removal of a retained foreign body from prior abdominal surgery. The patient had a previous staging laparotomy in 1991 for Hodgkin’s lymphoma, when the patient was 15 years old. He underwent splenectomy at that time, had an uneventful postoperative course, and was discharged.

The patient had lived in another state for most of the intervening years and most of the medical history from that time is unknown and unobtainable. The patient has a history of severe asthma and apparently had several admissions for respiratory distress, including a tracheostomy and decannulation. The patient presented to another institution with respiratory distress as a medical code and was intubated and treated for asthma and was found to have tracheal stenosis related to his previous tracheostomy. He underwent tracheal resection and was eventually transferred to a rehabilitation facility.

At that institution, the patient had bacteremia due to deconditioning. A computed tomography (CT) scan was per-

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formed in the work-up and revealed a metallic foreign body in the abdomen. This foreign body was consistent with a metallic ribbon retractor in the midline portion of the abdomen. The patient was discharged from that institution after a prolonged stay and was asked to follow up, but the patient was lost to follow-up.

Subsequently, the patient was transferred to our institution. Physical examination and laboratory analysis were unremarkable and his vital signs were normal. An abdominal plain film verified the presence of a large midline metallic object (Fig. 1).

Diagnostic laparoscopy was performed through four 5-mm ports placed in each quadrant of the abdomen. An initial survey of the abdomen did not reveal the foreign body, due to encasement of the retractor with omentum and scar tissue in what appeared to be a pseudocapsule. The object was found by tapping the omentum with an atraumatic grasper in the midline. The retractor was located in the midline spanning a distance from the falciform ligament of the liver down into the pelvis near the sacral promontory.

The encasing omentum was dissected along its right side allowing us to identify the retractor (Fig. 2). Once the pseudocapsule was opened, cultures of the lining of the pseudocapsule were taken. The right upper quadrant port site was widened to ~5 cm to allow for removal of the medium malleable retractor (Fig. 3).

The patient tolerated the procedure well. He remained afebrile and the aerobic and anaerobic cultures were negative. His postoperative course was uneventful and the patient was discharged to home 4 days after surgery.

DISCUSSION

In 1911 the first laparoscopy in the United States was performed by Bertram Bernheim at the Johns Hopkins University. Laparoscopy was not used for therapeutic applications until the early 1930s. At that time, therapeutic applications for laparoscopy were limited due to poor mobility, illumination, and visualization. Early laparoscopy was performed in an open abdominal cavity by a single person using a cystoscope without establishing a pneumoperitoneum. Since the 1930s, laparoscopy has significantly progressed from simple adhesiolysis to multiple applications such as gastric bypass, hysterec- tomy, donor nephrectomy, and bowel resection.

Laparoscopy can also be used for the removal of foreign bodies, including laparoscopic small bowel resection to remove an intraluminal fecolith from the jejunum. Several cases have been reported of the removal of for-
eign bodies from the abdomen. In most of these cases, the foreign bodies were fish bones or pins that had been ingested and migrated from the gastrointestinal tract into the peritoneal cavity.4–6 Other case reports include the removal of intrauterine devices, pieces of Foley catheters, and disconnected distal catheters in ventriculoperitoneal shunts.7,8 In another report, a surgical spatula 28 cm long was removed from the abdominal cavity through laparoscopic means.1

Our report describes the largest metallic foreign body to be removed from the abdominal cavity laparoscopically. The removed ribbon malleable retractor measured 33 × 5 cm. Our report also documents the longest period of time a surgical instrument has been retained, 14 years, and subsequently removed laparoscopically.

We have shown that the broad application of minimally invasive techniques is possible and that even fairly large and cumbersome foreign bodies in the abdominal cavity can be removed laparoscopically.

REFERENCES


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