CASE REPORT

Retained faecolith: an avoidable complication of laparoscopic appendicectomy

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SUMMARY

A 26-year-old woman presented to the accident and emergency department 9 days post laparoscopic appendicectomy for a non-perforated, but gangrenous appendicitis. She was found to have a retained faecolith with a pelvic abscess. This case demonstrates one of the common pitfalls of the laparoscopic appendicectomy and we discuss some technical points to avoid such complications.

BACKGROUND

The advantages of a laparoscopic appendicectomy have been debated since first described by Semm in 1983.¹ One of the chief stumbling blocks to laparoscopic appendicectomy gaining widespread acceptance is the higher incidence of postoperative intra-abdominal sepsis as compared to the conventional open approach.² Although several studies have been published consistently demonstrating this trend, the reasons for it are less clear.²⁻⁶ In this case report we describe a case of postoperative intra-abdominal sepsis due to a retained faecolith.

CASE PRESENTATION

A 26-year-old woman presented to the accident and emergency department 9 days post laparoscopic appendicectomy for a non-perforated, but gangrenous appendicitis. She had 7 days of worsening lower abdominal pain, fevers and diarrhoea. She had no other surgical history and her medical history was unremarkable.

At the time of her appendicectomy, there was no free intra-abdominal pus or collection and it was reported to have been a straightforward procedure. She had three doses of postoperative co-amoxiclav and was discharged home the following day.

INVESTIGATIONS

Blood results on readmission showed a total white cell count of 20.3 g/dL, with a marked neutrophilia of 17.3. The remainder of the full blood count, her urea and electrolytes, liver function tests and amylase were all within normal limits.

An abdominal ultrasound sonography demonstrated a complex deep collection in the pelvis approximately 5.4 cm on right and 6 cm on the left. A CT was performed to further delineate the collection and ascertain if this was amenable to image guided drainage. The CT showed a 12 cm fluid collection, containing gas bubbles in the pouch of Douglas. Within this collection a 5 mm opacification was noted (figure 1).

DIFFERENTIAL DIAGNOSIS

The patient's symptoms could have been accounted for by an appendix stump blow out, infected haematoma or, as in this case, pelvic abscess.

TREATMENT

The patient was initially administered intravenous antibiotics and fluid resuscitation. Her pelvic collection was not amenable to radiological guided drainage and therefore she was taken to theatre for a laparoscopic adhesiolysis and washout the following day. By the time of surgery, the abscess was contained by multiple loops of firmly adherent bowel making the procedure technically challenging. The appendix stump was healthy, however, with the endoloop in place. Of note a 5 mm faecolith was found within the pelvic abscess (figure 2).

OUTCOME AND FOLLOW-UP

The pelvic pus was cultured, yielding an *Escherichia coli* that was resistant to co-amoxiclav. Therefore, the patient was kept in for 5 days of intravenous Tazocin. She made a good recovery, stopped spiking temperatures and her white cell count returned to normal within 48 h. She was discharged home on day 5 with a further week's course of oral ciprofloxacin as per microbiology advice.

DISCUSSION

The initial appendicectomy was performed by a senior registrar assisted by a Senior House Officer, as is commonly the case. A 10 mm port had been placed infraumbilically and two further 5 mm ports suprapubically and in the left iliac fossa. The appendix had been divided using scissors between two vicryl endoloop ligatures in standard fashion, and a minimal amount of faecal contamination had been noted. An endocatch bag had been used to remove the specimen and the abdomen was thoroughly washed with 2 L of saline.

As the histology of the appendix confirmed appendicitis, without appendiceal perforation, the faecolith must have escaped at some point from the cut ends during removal of the appendix.

This case clearly demonstrates the importance of meticulously checking for the presence of a faecolith in cases of perforated appendicitis and to check the appendix stump and pelvis routinely for one prior to closure, particularly if there has been (even apparently minor) intraoperative contamination.

Gently squeezing the appendix stump with a Johan or other non-toothed grasper, will often yield a faecolith that should be carefully removed

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Figure 1 CT with faecolith (blue arrow) lying within pelvic abscess.

and as we know is often the causative agent in appendicitis.⁷ Other technical points to consider are that direct visualisation of the appendix at all times until safely in a bag to minimise risk of inadvertent contamination from appendix contents.

Figure 2 Laparoscopic retrieval of faecolith after adhesiolysis, evacuation of pus and lavage.

Learning points

- ▶ Faecoliths are a clearly identifiable source of intra-abdominal abscess formation.
- ▶ Attempts should be made to minimise contamination during laparoscopic appendicectomy, and if contamination occurs, ensure all faeculent material is retrieved prior to thorough lavage.
- ▶ The simple technical tip of gently squeezing the appendix stump after division of the appendix between two endoloops reveals the presence (or confirms absence) of an occult faecolith lying within the appendix stump, beyond the caecal endoloop. This may avert a potentially catastrophic complication and its attendant risks and costs.
- ▶ Gross pelvic sepsis following laparoscopic appendicectomy may be successfully treated laparoscopically. While these cases are technically challenging, there are several benefits when compared with radiological drainage; in that thorough adhesiolysis, evacuation of all pus and removal of any nidus for infection are all possible using minimal access techniques.

Contributors OK drafted, revised and submitted the paper. RB and JC revised the draft paper.

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