

# Drug-resistant abdominal pain caused by a surgical tube

## Introduction

A retained surgical item is one of the leading causes of perioperative complications. It puts patients at risk of severe illness and is theoretically preventable. Although interventions have been developed to maintain patient safety, such sentinel events still occur, causing concern. This article presents a rare case of a surgical extension tube retained in a patient's abdomen, which caused her continuous abdominal pain that was unrelieved by medications.

## Case report

A 59-year-old woman presented with continuous abdominal pain that had lasted for approximately 6 months. The pain started after laparoscopic resection of an abdominal mass 6 months earlier. The patient reported that she was free from nausea and vomiting and that the pain could be relieved by walking upright. She initially visited community hospitals and was treated with anti-inflammatory medications. However, these did not relieve the pain, so she was referred to the authors' hospital.

The patient underwent open ovarian tube resection in 1992 and a caesarean section in 1998. She also had undergone several previous laparotomies, including laparoscopic hysterectomy in 2016 and laparoscopic resection of a radical sigmoid tumour in 2018.

On examination, dull pain was localised to her lower abdomen, scored as 5–6 on a visual analogue scale. A computed tomography scan revealed a high-density tubular item in her abdomen (**Figure 1**), which was suspected to be a retained foreign body. Consequently, a laparoscopic exploration was performed. During the surgery, a surgical extension tube 38.0 cm in length and approximately 0.4 cm in diameter was found in her abdomen. This tube was a new surgical item that was initially not documented in the count inventory. The tube is generally used for the injection of medical chitosan or surgical haemostatic spray. The patient reported having recovered well at 1-year follow up.

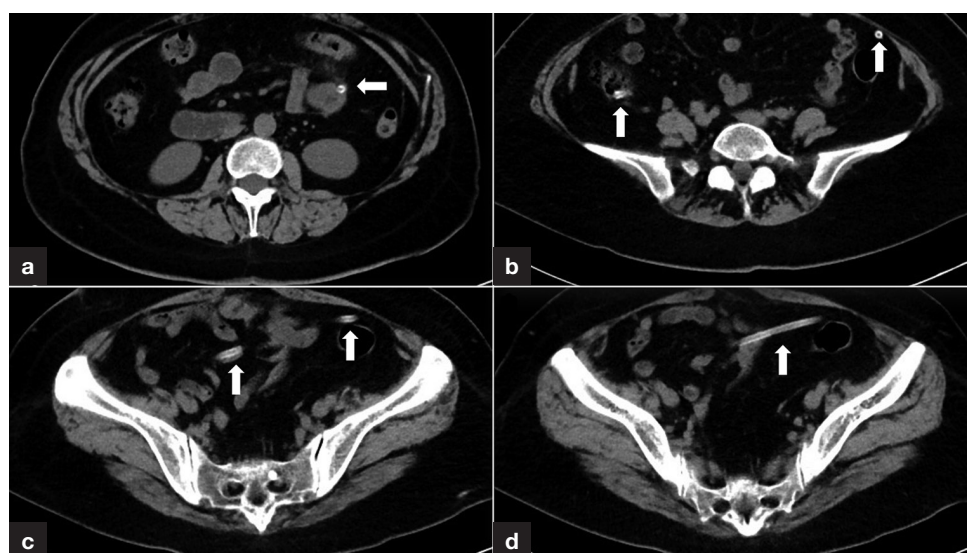
Tong Han<sup>1</sup>

Mei Xu<sup>2</sup>

Author details can be found at the end of this article

Correspondence to:

Mei Xu;  
pumchmeixu@163.com



**Figure 1.** Plain abdominal computed tomography scan showing a tubular item. a. A small, ring-shaped, high-density item (arrow) was seen attached to the wall of the small intestine in the left abdomen. b. The annular area of high density (arrow) was observed on the inner side of the left abdominal wall. There was another stripe-shaped bar with high peripheral density (arrow) attached to the wall of the small intestine wall in the right abdomen. c. Two intraperitoneal bars of striping (arrows) were present. d. A long linear stripe with a grey lumen and high-density outer wall is shown.

Distributed under Creative Commons CC BY-NC 4.0

## OPEN ACCESS

## How to cite this article:

Han T, Xu M. Drug-resistant abdominal pain caused by a surgical tube. Br J Hosp Med. 2021. <https://doi.org/10.12968/hmed.2021.0397>

## Learning points

- All medical professionals involved in perioperative care should understand the risks and manifestations of retained surgical items.
- The increasing number of unconventional surgical items contributes to the increase in retained surgical items; traditional manual-based practices are inadequate to prevent sentinel events.
- Clinicians should heed patients' complaints, symptoms and signs that are unrelated to disease progression during follow up and use the minimum procedures needed to achieve an early diagnosis.
- All surgical staff need to engage in open communication to cultivate a culture of professionalism to improve overall patient safety.

## Discussion

Laparoscopic surgical interventions are preferred by most patients over open surgeries. This has led to an increase in cases of retained surgical items caused by the use of unconventional surgical items in the operating room. Surgical sponges have been reported as the most common items retained after surgery (Zejnnullahu et al, 2017), with other items rarely retained. Retained surgical items are most commonly found in the abdominal and pelvic cavities (Moffatt-Bruce et al, 2014).

Patients may complain of pain or discomfort days or months after the procedure. Stawicki et al (2014) showed that most patients with abdominal or pelvic retained surgical items experience abdominal pain, abscess or mass, nausea or vomiting and ileus. Retained surgical items can also cause different types of tissue reactions, including exudative reactions that present fairly early in the postoperative period, or aseptic fibrous reactions, which usually progress slowly and can remain asymptomatic for years. Retained surgical items can be difficult to diagnose because of the diversity of presentations. A retained surgical item may be misdiagnosed as an inflammatory reaction, a neoplasm or an obstruction.

Imaging is the most effective technique to diagnose retained surgical items. Plain X-ray is preferred for the identification of retained surgical items, although the false-negative rate is relatively high (Walter et al, 2015). Computed tomography can provide important evidence, especially when the item retained is non-radioopaque and/or composed of an unknown material (Stawicki et al, 2014). Other imaging techniques, such as magnetic resonance imaging, ultrasound and transoesophageal echocardiography, can also be used for the intraoperative identification of radioopaque and non-radioopaque retained surgical items (Huang et al, 2010). Once diagnosed, the surgeon should weigh the risks and benefits of retrieving the item.

### Author details

<sup>1</sup>Operating Room, Peking Union Medical College Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, China

<sup>2</sup>Department of Infection Control, Peking Union Medical College Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, China

### Acknowledgement

The authors would like to thank Fang Jiang for help with manuscript preparation.

## References

- Huang J, Bouvette MJ, Chari R et al. The detection of a retained sponge in the aorta by transesophageal echocardiography. *J Cardiothorac Vasc Anesth*. 2010;24(2):314–315. <https://doi.org/10.1053/j.jvca.2007.10.006>
- Moffatt-Bruce SD, Cook CH, Steinberg SM, Stawicki SP. Risk factors for retained surgical items: a meta-analysis and proposed risk stratification system. *J Surg Res*. 2014;190(2):429–436. <https://doi.org/10.1016/j.jss.2014.05.044>

Stawicki SP, Cook CH, Anderson HL et al. Natural history of retained surgical items supports the need for team training, early recognition, and prompt retrieval. *Am J Surg*. 2014;208(1):65–72. <https://doi.org/10.1016/j.amjsurg.2013.09.029>

Walter WR, Amis ES, Jr., Sprayregen S, Haramati LB. Intraoperative radiography for evaluation of surgical miscounts. *J Am Coll Radiol*. 2015;12(8):824–829. <https://doi.org/10.1016/j.jacr.2015.03.005>

Zejnnullahu VA, Bicaj BX, Zejnnullahu VA, Hamza AR. Retained surgical foreign bodies after surgery. *Open Access Maced J Med Sci*. 2017;5(1):97–100. <https://doi.org/10.3889/oamjms.2017.005>