CASE REPORT

Shortness of breath, fever and abdominal pain in a 21-year-old student

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SUMMARY

A 21-year-old patient presented with a 3-day history of shortness of breath, productive cough, fatigue, fevers and night sweats, associated with right upper quadrant pain. He had an appendectomy 3 months previously. The CT images showed a right subphrenic collection, which was indenting the right lobe of the liver, with an appendicolith in the middle. He underwent laparoscopic surgery where the abscess was drained and the appendicolith was retrieved. The patient had an uncomplicated postoperative period and was discharged soon afterwards. Complications from spilled appendicoliths have been reported previously. Retained appendicoliths and gallstones can act as niduses for infection, and thus cause symptoms at a later stage. Surgical notes should include the findings of appendicoliths, and in the event where retrieval is not possible, a clear record of this must be made, and the patient along with the general practitioner need to be informed.

BACKGROUND

The presence of appendicoliths in cases of perforated appendicitis is common, and previous cases of delayed complications have been reported. The symptoms of such presentations can vary and patients can present to either the medical or surgical on call team.

This case emphasises the importance of looking for and retrieving spilled stones, as well as ensuring an adequate documentation of the process.

CASE PRESENTATION

A 21-year-old patient presented with a 3-day history of shortness of breath, productive cough, fatigue, fevers and night sweats, associated with right upper quadrant pain. A year previously, he had received treatment for a right basal empyema, and 8 months later he had undergone emergency laparoscopic appendectomy for perforated appendicitis.

He had become unwell on holiday in Spain, and 4 years previously had travelled to India. He denied any alcohol intake, and there was no history of smoking or illicit substance usage.

On examination, he had moderate tenderness below the right costal margin. There was also reduced air entry over the right lung base, which was dull to percussion.

Blood tests showed raised inflammatory markers (white cell count $15.6 \times 10^9/L$, C reactive protein $>156 \text{ mg/L}$) with normal liver and renal

function. A chest radiograph suggested right basal consolidation, consistent with a chest infection. He was treated with a course of oral amoxicillin, and a planned outpatient follow-up.

Two days later he required readmission to the hospital with worsening symptoms.

INVESTIGATIONS

A repeat chest radiograph showed an increase in the size of the right basal consolidation (figure 1).

A subsequent CT scan showed a right subphrenic collection, which was indenting the right lobe of the liver (figure 2). This collection had a thick wall containing a calcified foreign body, and the diagnosis of chronic abscess formation around a retained appendicolith was made.

DIFFERENTIAL DIAGNOSIS

Recurrent pneumonia or empyema.

TREATMENT

The patient underwent laparoscopic surgery where the abscess was drained with most of its wall resected, and the appendicolith was retrieved.

Figure 1 Chest radiograph demonstrating right basal consolidation and loss of the costophrenic angle, consistent with a right basal chest infection.

To cite: Whalley HJ, Remoundos D-D, Webster J, et al. *BMJ Case Rep*. Published online: [please include Day Month Year] doi:10.1136/bcr-2013-200729

Figure 2 Axial and coronal views of CT chest/abdomen/pelvis showing a right subphrenic collection indenting the right lobe of the liver and containing a calcified foreign body.

OUTCOME AND FOLLOW-UP

The patient had an uncomplicated postoperative period and was discharged soon afterwards, with no hospital follow-up in place.

DISCUSSION

Laparoscopic appendicectomy is the recommended treatment for acute appendicitis,¹ and 45% of perforated cases can be associated with appendicoliths.² Less than 10% of these appendicoliths are radiopaque³ making diagnosis of retained or spilled appendicoliths more difficult. Complications from spilled appendicoliths have been reported previously, becoming symptomatic up to 10 years after the original operation.⁴

As with spilt gallstones,⁵ every effort must be made to identify and retrieve appendicoliths at the index operation. Retained appendicoliths and gallstones can act as niduses for infection, and thus cause symptoms at a later stage. Surgical notes should include the findings of appendicoliths, and in the event where retrieval is not possible, a clear record of this must be made, and the patient along with the general practitioner need to be informed.

Contributors All authors have contributed in the conception, design and drafting of the manuscript and approved its final version.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Sauerland S, Jaschinski T, Neugebauer EAM. Laparoscopic versus open surgery for suspected appendicitis. *Cochrane Database Syst Rev* 2010;10:CD001546.
- 2 Nitecki S, Karmeli R, Sarr MG. Appendiceal calculi and fecaliths as indications for appendectomy. *Surg Gynecol Obstet* 1990;171:185–8.
- 3 Sarkar S, Douglas L, Egun AA. A complication of a dropped appendicolith misdiagnosed as Crohn's disease. *Ann R Coll Surg Engl* 2011;93:e117–18.
- 4 Sade R. Very late wound infection due to retained fecalith. *Arch Surg* 1970;101:624–5.
- 5 Muller J, Cooper K, Box B, *et al*. The case for standardisation of the management of gallstones spilled and not retrieved at laparoscopic cholecystectomy. *Ann R Coll Surg Engl* 2008;90:310–12.

Learning points

- ▶ Laparoscopic appendicectomy is the recommended treatment for acute appendicitis.
- ▶ Spilled appendicoliths can cause delayed complications.
- ▶ Such delayed complications can mimic the symptoms and signs of a right basal pneumonia.
- ▶ Good communication and documentation is necessary to enable early diagnosis of potential complications.