

## 'The last piece to the puzzle'. Learning from the radiological findings of complications arising years after laparoscopic cholecystectomy and/or appendectomy and its management pitfalls

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**Section:** Abdominal imaging

**Area of Interest:** Abdomen

**Imaging Technique:** CT

**Special Focus:** Abscess Foreign bodies Case Type:  
Clinical Cases

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**Patient:** 53 years, female

### Clinical History:

A 53-year-old caucasian female patient with a background of laparoscopic cholecystectomy (LC) and appendectomy 18-and 32 years ago, respectively presented with 6-months history of ongoing right flank pain worsening over the last few weeks. On clinical examination there was a fluctuant and erythematous swelling in the right flank.

### Imaging Findings:

CT of the abdomen and pelvis demonstrated intra-abdominal abscess extending into the right flank/subcutaneous plane. The collection was predominately retroperitoneal and extended superiorly to the level of the midpole of the right kidney and inferiorly into the right iliac fossa (Fig 1, 2, 3).

The Frank abscess also demonstrated a 9 mm well-defined lamellated calculus (Fig 1).

### Discussion:

Dropped gall stones (DGs) are an uncommon complication of LC [3, 5]. It may present with non-specific clinical symptoms such as fever, abdominal pain due to abscess, adhesion, fistula formation and small-bowel obstruction [1, 4]. Time to presentation varies from days months or even years after the procedure [1]. These abscesses are usually found in the right upper quadrant however this may not always be the case [1, 2, 5].

It is crucial to keep patient's past surgical history in mind during interpretation of the images. An ultrasound, CT and/or MRI of abdomen and pelvis can be used to demonstrate the presence of DGs in the abscess [1]. There is a dilemma in interpretation of DGs with peritoneal metastasis however history of past LC and presence of calcified material in the abscess favours the diagnosis of DGs [1, 4].

Another less frequent cause of right flank abscess can be appendicolith. In our case study the patient also has a

childhood history of appendectomy. The size of the focus <1cm within the abscess and identical imaging findings to the DGs also favours the possibility of dropped appendicolith [1, 6].

These findings were discussed in a multidisciplinary team meeting and the appearance was felt to be due to those of a dropped gallstone and/or appendicolith with resultant abscess formation. Moreover it was recommended that percutaneous drainage would not solve the problem and a surgical drainage with extraction of the stone would be required as it will prevent the recurrent infection and less dependency on antibiotics leading to rapid recovery [1, 2].

Subsequently surgical drainage under general anaesthesia was performed. A large abscess cavity was found subcutaneously with intra-abdominal extension. In addition, a calcified object within the abscess was retrieved from the region of the paracolic gutter. A subsequent histopathology report of the object revealed pigmented, calcified material with neutrophil infiltration consistent with a faecolith and/or a spilled gallstone from previous LC.

#### Conclusion:

It is important to consider intra-abdominal abscess formation due to a spilled gallstone and/or appendicolith even years after the surgical procedure. The radiologist plays a key role in recognising these complications and therefore it is important to familiarise with imaging findings.

#### Additional learning points:

I. Apart from recognising the pathology, another important point in the management is that tube drainage does not work: one has to go in and retrieve the stone, otherwise the abscess will return.

Written informed patient consent for publication has been obtained.

**Differential Diagnosis List:** Abscess formation due to dropped gall stones and/or appendicolith, Renal colic, Urinary tract infection, Pyelonephritis, Acute abdomen, Sepsis, Psoas abscess

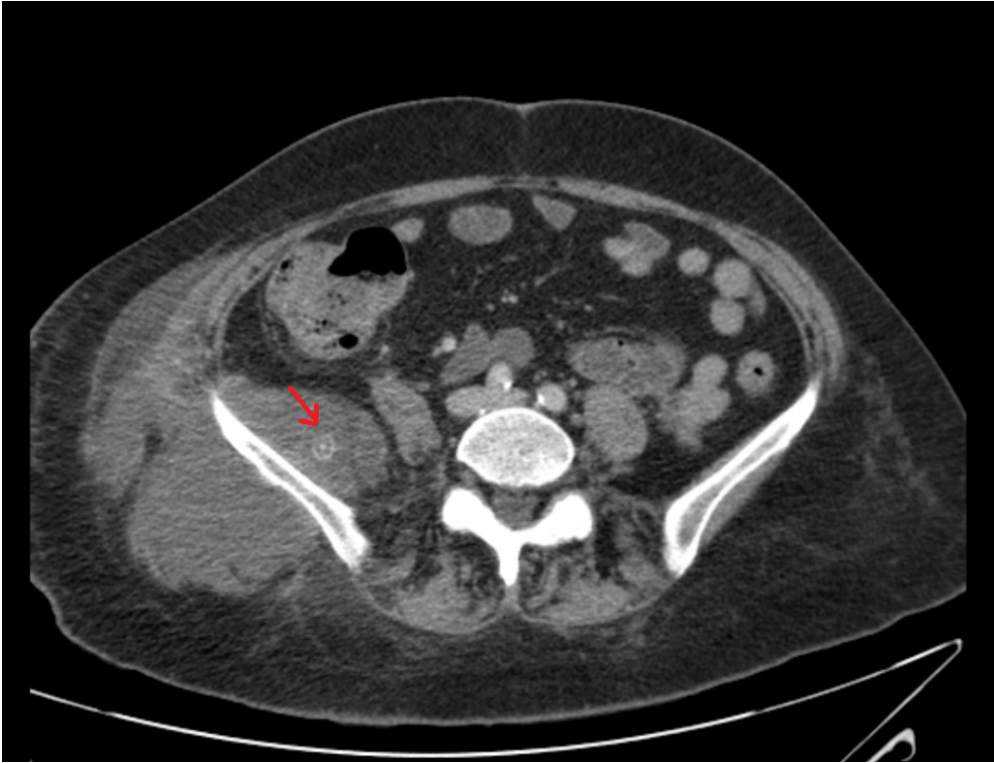
**Final Diagnosis:** Abscess formation due to dropped gall stones and/or appendicolith

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**Figure 1**

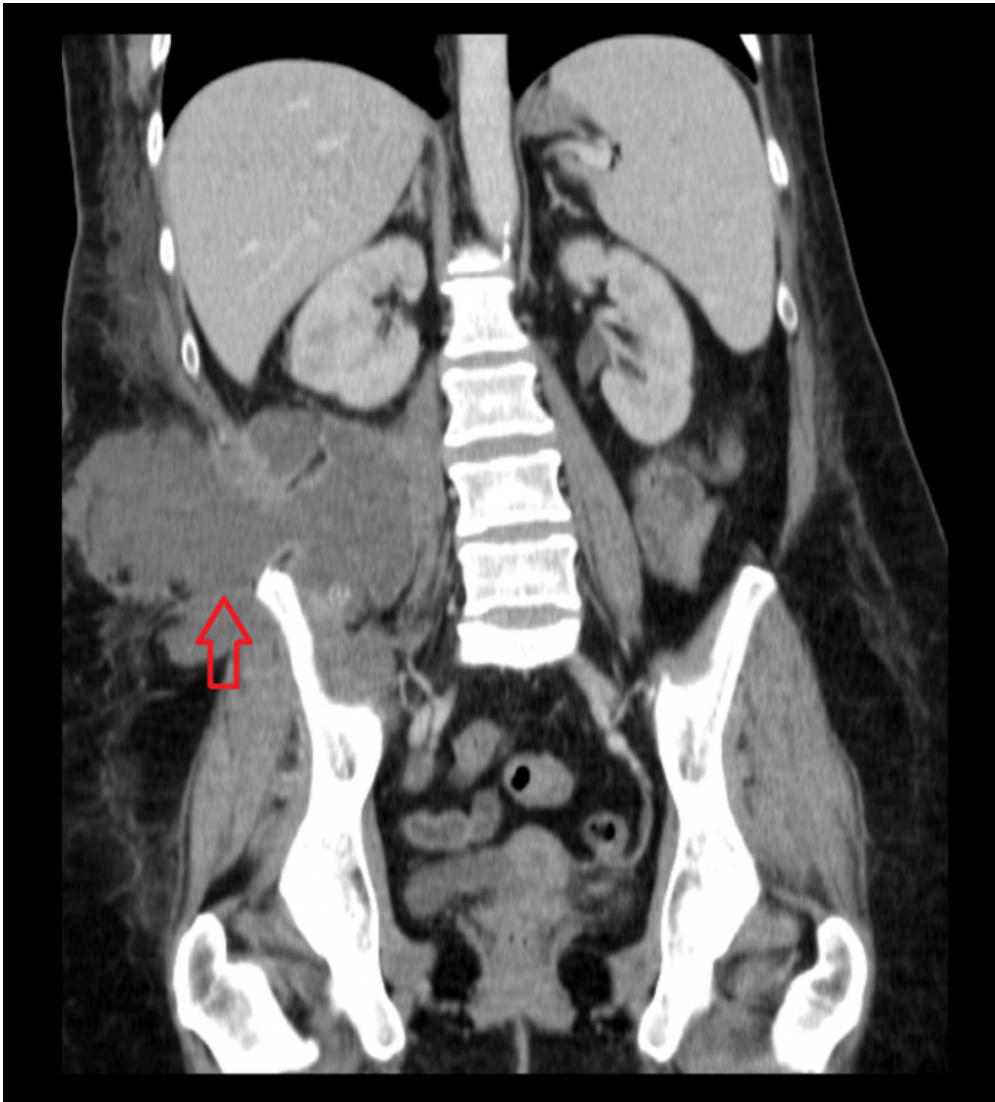
**a**



**Description:** CT abdomen and pelvis (axial view) shows frank abscess with 9 mm well-defined lamellated calculus (red arrow). **Origin:** Whipps Cross University Hospital, London, UK

**Figure 2**

a



**Description:** CT abdomen and pelvis (coronal view) shows intra-abdominal abscess extending into the right flank/subcutaneous plane (red arrow). **Origin:** Whipps Cross University Hospital, London, UK

**Figure 3**

a



**Description:** CT abdomen and pelvis (axial view) shows intra-abdominal abscess extending into the right flank/subcutaneous plane (red arrow). **Origin:** Whipps Cross University Hospital, London , UK.