Non-operative Management Of Intra-abdominal Abscess Following Laparoscopic Cholecystectomy

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Abstract

Laparoscopic cholecystectomy (LC) has become the ‘gold standard’ for symptomatic gallstones. Although the overall complication rate after LC is less than the traditional open approach, intra-abdominal abscesses following LC are rarely encountered. Also, intra-operative stone spillage and dropping of the surgical clips do occur. An abscess secondary to a dropped surgical clip is an uncommon event. We present a case of an intra-abdominal abscess following LC secondary to a dropped surgical clip. An excellent response to image guided percutaneous drainage of abscess without the need for formal surgical retrieval of the clip was achieved.

Keywords: Laparoscopy; Cholecystectomy; Abdominal abscess; Non-surgical treatment.

Introduction

Intra-abdominal abscesses secondary to intra-operatively dropped calculi and clips are relatively uncommon complications following LC. The incidence of bile leak and loss of gallstones into the peritoneum due to gall bladder perforation during LC has been reported to be between 3% and 33% and can lead to the formation of intra-abdominal abscesses.1 Rarely, dropped clips may cause intra-abdominal abscesses too2 and we present such an event that was managed by non-operative methods.

Case Report

A 44-year-old male who previously underwent LC for symptomatic gall stones was referred to us with progressively increasing dull aching pain in the right abdomen of two months and fever of two weeks duration. There were no other symptoms. Clinical examination revealed tenderness over the right hypochondrium, right iliac fossa and hypogastric region. There was no mass palpable. Investigations showed an increased leucocyte count (13,100 cells/cumm), with normal liver functions. A contrast CT abdomen and pelvis showed a post cholecystectomy status with a well defined peripherally enhancing loculated hypodense collection (abscess) with few internal septations in the gall bladder fossa. The abscess extended superiorly into the subdiaphragmatic region, indenting the diaphragmatic surface of liver, inferiorly under the right anterior abdominal wall into the paracolic gutter and up to the dome of the urinary bladder, extending into the pelvis. Medially the collection extended across the midline into the left iliac fossa and up to the anterior pole of spleen along the left paracolic gutter. A surgical clip within the collection in the left iliac fossa was seen (Figure 1). An ultrasound (USG) guided Malecotcs catheter drainage of the collection was done (Figure 2). Surprisingly the clip also came out along with pus and required no surgical intervention. Repeat ultrasound revealed no residual abscess and patient made a good recovery.

Discussion

Among the two operative complications that occur during LC, bile duct injury with bile leakage (30%) is more common than late infection due to dropped gall stones or surgical clips. Spillage of calculi occurs in less than 10% of cases and frequency of subsequent abscess formation is 0.3±0.6%.2 An abscess typically occurs in the sub-hepatic space, but can also be seen in unusual locations like retroperitoneum and pleural space. Infectious complications are more likely caused by bilirubinate stones as these stones often contain viable bacteria.3 Clinically, patients with abscess formation are often afebrile and have a normal leukocyte count. The unusual sites of abscess formation coupled with the lack of awareness of a previous LC can lead to an inaccurate or delayed diagnosis. The long duration between LC and the development of symptoms may relate to the indolent nature of the inflammatory process that occurs.3 The presence of calculi or clip within the collection identified using USG, CT or MR imaging is virtually diagnostic. The radiographic appearance can rarely mimic more ominous disease, such as tumors or bowel obstructions.2 Hussain et al suggested that dropped gallstones and clips can be a risk factor for
abdominal sepsis, though they may remain silent for long. Hence, every effort must be made to avoid leaving any loose surgical clips or dropped gall stones in the peritoneal cavity. Exploring and removal of the spilled gallstones and clips can be difficult during laparoscopy. Even with irrigation techniques, removal may be impossible due to an inaccessible subhepatic location and thus often avoided. It remains unclear whether stone spillage or dropped clips should be considered an indication for conversion to an open cholecystectomy. Most surgeons consider that free intraperitoneal clips or gall stones are harmless even if a large number are left in situ and hence conversion to laparotomy is not a rationale. Schäfer et al showed that the incidence of serious complications and mortality of retained gallstones are extremely low. Nevertheless, recognition of this unusual entity is important because the clinical presentation can be confusing and the diagnosis significantly delayed. Review of literature reveals many studies where laparotomy was required in only few instances, but in majority of the conditions image guided percutaneous drainage and retrieval of stone or clip was sufficient.

Conclusion

Spilled gall stones or clips following LC should be considered as a potential source of abscess, though this complication is rare. Though immediate surgical intervention is not required, patients should be informed of complications preoperatively, to avoid unnecessary investigations as well as the psychological trauma associated with delayed and wrong diagnosis. Image guided percutaneous drainage of abscess along with possible retrieval of dropped stones or clips are sufficient. Rarely surgical intervention is necessary.

References


Legends

Figure 1. CT abdomen showing collection in the right hypochondrium, indenting the liver (big arrow) and extending into the left iliac fossa with presence of clip (small arrow).

Figure 2. Malecot’s catheter in situ draining pus.
Illustrations

Illustration 1

Fig 1
Illustration 2

Fig 2
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