Gastrocutaneous fistula after laparoscopic cholecystectomy: An unforeseen mishap

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Abstract

A middle-aged woman presented to us with complaints of purulent discharge which was coming from the epigastric port site for two years following laparoscopic cholecystectomy, which was performed at an outside hospital for asymptomatic gall stone disease. Computed tomography and magnetic resonance imaging (MRI) confirmed the fistulous sinus track communicating with the anterior body wall of the stomach. At re-laparotomy, the fistulous sinus track was found and excised with primary repair of the defect in the stomach wall. The patient had an uneventful post-operative recovery and was doing well on follow-up. This was the second such case reported in literature where a common surgical procedure like laparoscopic cholecystectomy has led to the formation of gastrocutaneous fistula, which is a rare complication and was successfully managed.

Keywords: Gastrocutaneous fistula, laparoscopic cholecystectomy, laparoscopic complications, post-cholecystectomy complications

Background

Following the laparoscopic cholecystectomy, the development of the port site sinus tract is reported in about 0.3% to 0.6% of cases. Occasionally, it is uncommon to find that the sinus leads to a fistula tract. Here, we reported a case of gastrocutaneous fistula (GCF) following laparoscopic cholecystectomy-a rare complication of a commonly performed surgery.

Case Presentation

A 28-year-old female, who was previously a known case of asymptomatic gall stone disease and underwent laparoscopic cholecystectomy two years ago, presented to us with complaints of purulent discharge from the epigastric port site for two years. She had been treated conservatively at multiple hospitals with a curettage and drainage of the sinus and regular wound dressings. She was having persistent symptoms despite medical therapy with antibiotics when she presented to us.

Diagnosis

The patient was evaluated by us clinically and diagnosed to have a persistent fistula following laparoscopic surgery. She underwent radiological investigations to confirm the diagnosis. The patient underwent computed tomography and contrast-enhanced MRI, which showed a sinus tract of thickness 6–7 mm (Maximum). Communicating exteriorly with the port site in the epigastric region and posteriorly, it was trans-versing the anterior abdominal wall into the anterior body wall of the stomach with evidence of few low signal foci within the sinus tract, as shown in Figure 1. The contrast was seen in the sinus cavity in the subcutaneous...
region with significant surrounding fibrotic changes and evidence of contrast into the stomach further extending into the duodenum. Fortunately, there was no spillage into the peritoneum.

The patient underwent a curettage and drainage of the port sinus site at multiple hospitals, and a histo-pathological examination of the same showed inflammatory and fibrotic changes. Further, port site tuberculosis and malignancy were ruled out after proper investigations.

**Technique**

After a proper pre-operative work up, the patient underwent an exploratory laparotomy under general anaesthesia. Intra-operatively, there were adhesions present between the liver, anterior abdominal wall, and stomach. Adhesiolysis was performed with electrocautery, and a fistulous sinus tract was identified between the antrum of the stomach, extending up to the anterior abdominal wall seen as the port site of the previous surgery, as shown in Figure 2. There was a palpable stone in the stomach antrum. Fistulous tract was subsequently excised [Figure 3] with a primary repair of the stomach wall defect done with absorbable sutures.

**Discussion**

Gastrocutaneous Fistula (GCF) following laparoscopic cholecystectomy is not frequently encountered and has been reported only a few times in the literature. Here we encountered a case which presented to us after a long duration of two years. The aetiology of such a complication to such a common surgery performed worldwide is not clear but is thought to be due to infected bile, missed and dropped stones during the previous surgeries, abdominal tuberculosis, or malignancy of the gastrointestinal tract. This is the second such case report to the best of our knowledge. Mc Donald et al. published a case of colo cutaneous fistula, following laparoscopic cholecystectomy. Verma et al. published an interesting case report on gastrocutaneous fistula following laparoscopic cholecystectomy. Similarly, in our case also, we have ruled out the possibility of gastrointestinal malignancy or intestinal tuberculosis. Gall bladder perforation and stone spillage during surgery have been reported in 5% to 40% of patients. The cause of such fistulization could be due to lost stones which are believed to be notorious for such complications. Patients usually present with purulent discharge from port sites (Fistula Tract). It is also documented in the literature that the association of pigmented stones causes abscess formation following spillage, and subsequently causes internal fistulization with adjacent organs. In our case report, we were not able to find the exact cause for the fistula tract formation due to the non-availability of past surgical records of the laparoscopic cholecystectomy. Therefore, we come to a hypothesis that the cause could be due to lost stones/electrocautery injury. Contrast-enhanced radiological imaging can be handy in confirming the diagnosis in such cases and help in planning further for management. We managed the case by open surgery with excision of the tract and primary closure of defect. However, in modern times, minimally invasive techniques can also be tried based on the expertise of the operating team.
Learning points

- Judicious use of electrocautery is important to prevent such complications
- Use of stapler is safer and easier for the repair of such fistula
- Open surgery is performed when the anatomy cannot be delineated
- Malignancy or tuberculosis should be ruled out when port site infections are suspected.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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