

Parietolith: Uncommon but Preventable Complication of Gall Stone Spillage after Laparoscopic Cholecystectomy

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Abstract: We are reporting an uncommon but preventable complication of an ectopic placement of gall stone after spillage following laparoscopic cholecystectomy in a 60yrs old patient who presented with an infraumbilical discharging sinus over an old surgical scar. Ultrasonography showed thick walled parietal wall sinus tract at the scar site with minimal fluid collection with presence of a curvilinear hyper intense shadowing in fluid collection. On operation it was found that a large stone was present in the depth of sinus tract. This stone was lodged in a pocket in the preperitoneal space much below the umbilicus and not in any way near the lower extreme of falciform ligament.

Keywords: abdominal abscess, transdiaphragmatic migration, discharging sinus/fistula

I. Introduction:-

Perforation of the gall bladder occurs sometimes during laparoscopic cholecystectomy and is reported in the range of 10%–40% in various series while spillage of stones have been reported to occur in 5%–40% of case(1,2) Stones spilled at the time of laparoscopic cholecystectomy may remain in the peritoneal cavity adjacent to the liver or spillage may occur during dissection of the gall bladder off the liver bed, tearing with grasping forceps, or during extraction of the gall bladder through one of the port sites(3). The incidence is more common when operating on an acutely inflamed gall bladder (3) it is also more common in males, the elderly, obese patients, and in the presence of adhesions. In majority of cases these remain asymptomatic but sometimes they may lead to range of complications (4,5).

II. Case Report:-

A 60yr old female patient with known diabetes mellitus since 8yrs on oral hypoglycemic drugs and hypothyroidism since 6 months was admitted as a case of infraumbilical discharging sinus of three months duration. She was apparently alright three months back when she started having itching in the infraumbilical area over the old surgical scar, which was followed by formation of a small pustule which ruptured after few days with passage of foul smelling discharge. She took oral antibiotic for one week and discharge decreased in both quantity as well as quality and it became thin watery non foul smelling and intermittent. Her past surgical history was hysterectomy, 24yrs back for fibroid uterus, and laparoscopic cholecystectomy done 2yrs back. Post operative period was uneventful after both surgeries. On admission patient denied fever, pain over the sinus region, her temperature was 37.2°C.

On local examination a small sinus tract was present below the umbilicus over the old surgical scar which showed serous thin discharge without any signs of local inflammation. On examination, laboratory testing revealed **leukocyte** count of 8000cells/mm³, **ESR** =20, **ultrasound** abdomen showed thick walled parietal wall sinus tract at the scar site in lower abdomen with minimal fluid collection showing a curvilinear hyper intense shadowing in fluid collection with no entrapment of gut loops.

Operative Findings:-

Excision of the sinus tract was done which showed a large 1/1cm stone at the depth of tract. On **histopathology** sinus showed chronic granulation tissue with intense lymphoplasmacytic infiltration, no evidence of granulomatous or malignant pathology.

III. Discussion:-

Nowadays laparoscopic cholecystectomy is gold standard treatment for symptomatic cholelithiasis (6). The incidence of gallbladder perforation is believed to occur more that of the traditional open method, although. During laparoscopic cholecystectomy, there are three ways by which perforation of gall bladder can occur. First, the gallbladder is used for traction to assist in the dissection of the cystic duct and cystic artery. This leads to excessive traction on gall bladder and graspers that may tear the wall of the gall-bladder. Secondly, the gallbladder may be punctured during dissection from the liver bed. Finally, the gallbladder is extracted from the abdomen through a small incision, at which time it may be put under high pressures. Perforation is easily avoided if extension of the skin incision is performed when needed. The amount of inflammation may also contribute to the rate of perforation. The reported abdominal complication rate after spillage of stones is 1.4%. The most common complication of retained stones is abdominal abscess (7, 10). Huang and colleagues (11) found that 12 of 20 gallbladders perforated were acutely inflamed. There are case reports of gallstones lost at the time of surgery subsequently causing intra-abdominal abscesses (7, 10) empyema (7) abdominal wall abscesses (12, 14), cutaneous sinus tract (15,16) and bladder fistulas(17). A study conducted in rats by Gurleyik et al came to the conclusion that chemical composition of the stones has a significant influence on the fate of intra-abdominal gall stones, and infection may aggravate local reactions and complication (18). Infective complications are more likely to occur with bilirubinate stones because these stones often contain viable bacteria (19). Migration of stones through the diaphragm has been described in case reports, but mainly secondary to subphrenic abscess. The underlying patho physiologic process involves inflammatory reaction secondary to the presence of retained stones. They may then erode through the diaphragm and cause a bronchopleural fistula with cholelithophthisis, thoracic empyema (20) or pulmonary abscess (21).

IV. Conclusion:-

Gall bladder perforation during laparoscopic cholecystectomy is a common problem but the serious complications after intra operative spillage of gall stones is very low and every effort should be made to avoid such type of early or late complications which can be a diagnostic challenge and leads to significant morbidity. Older, debilitated patients especially having some co-morbid conditions (i.e. IDDM) have greater chances of complications after spillage of stones. Meticulous surgical technique is the best preventative measure of the low incidence of intra abdominal abscess, immediate laparotomy is not indicated, but attempts should be made to remove all the stones laparoscopically, patient should be informed by the surgeon preoperatively about the possibility of gallstone spillage. They can present months or years after the cholecystectomy with septic complications not necessarily located in the right upper quadrant. We want to highlight our case only because at the time of delivery of gall bladder through epigastric or umbilical port every effort should be made to facilitate easy passage and, one should have continuous watch to see any spillage of gall stones. Retrieval bags can be used safely to minimize the chances of any future complications like abdominal abscess, sinus or fistula.

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