**Giant gallstone in abdominal wall: a rare complication of laparoscopic cholecystectomy**

Batın ön duvarında dev safra taşı; nadir laparoskopik kolesistektomi komplikasyonu

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**Abstract**

We aim to report a case of abdominal wall mass formation secondary to gallbladder perforation and stone spillage occurring during laparoscopic cholecystectomy (LC). A 73-year-old woman presented with purulent discharge from one of her previous port sites one year after she underwent LC. The latter revealed a round opaque mass in an abscess like cavity, and subsequently an ultrasonography showed a round echogenity with acoustic shadow posteriorly. Axial CT images verified the presence of a well-circumscribed hypodensity which was really a gallstone in a cystic mass. To reduce this complication, excessive traction of the gallbladder should be avoided during dissection. Prior to extraction, gallbladder contents should be aspirated, and to extract larger stones. In the event of perforation occurring, the gallbladder should be placed in a plastic bag, spilled stones should be retrieved where possible and excessive irrigation used to remove the bile.

**Keywords:** Abdominal wall; gallstones; laparoscopic cholecystectomy.

**Özet**

Laparoskopik kolesistektomi postoperatif komplikasyonları oldukça çoğaltmıştır. Bu vakada amacımız, perförasyon ve taşı sıkmalarının batın ön duvarında oluştuğu anlamak ve intraoperaatif ultrasonografi ile saptanmasından itibaren, pürulent bir yorganı yakalama işlemi ile tedavi edilmesi ve large taşlar için endoskopik bir eksiye çekim yapmasıdır. Ayrıca, pürulent bir yorganı, transabdominal endoskopik bir torba ile çıkarılması ve taşlar için endoskopik bir eksiye çekim yapması önemlidir.

**Anamnестik bilgiler:** Arka duvar; pürulent; pürulent; laparoskopik kolesistektomi.

**Case**

A 73-year-old woman presented with purulent discharge from one of her previous port sites one year after her LC. Except the dense inflammatory adhesions, operation note was uneventful, mentioning that the gallbladder wall integrity was maintained, endobag was not used during the extraction of the gallbladder, and a drain was placed by lateral subcostal port preoperatively. One month later, purulent greenish material from the previous port site was misinterpreted to be a small biliary fistula and managed conservatively. Afterward consecutive abscess and purulent discharges have been repetitively drained with chronic wound care during one year.

At referral the patient had tenderness around a chronic draining orifice at lateral subcostal port. Local exploration of the wound revealed a firm mass within the sinus cavity, and subsequently an ultrasonography showing a round echogenity with posterior acoustic shadow conducted us to a CT imaging verifying the presence of a well-circumscribed hyperdense lesion (Figure 1). There was no abnormality in her urine and blood examination. Therefore, the sinus orifice was excised under local anesthesia, and the cystic cavity was entered. A gallstone that measured 3 cm-in diameter into the cystic cavity located in the anterior abdominal wall discovered one year after the operation.
within the right rectus sheath was extracted (Figure 2). The sinus tract was curetted. The cyst wall was not communicated with the abdominal cavity. The wound was sutured primarily and the patient recovered imminently.

Figure 1. Mass located in the anterior abdominal wall within the right rectus sheath.

Figure 2. The extracted gallstone.

Discussion
Although laparoscopy has become a gold standard for the treatment of symptomatic gallstones, complications associated with biliary or vascular injury and damage to adjacent organs cause most significant morbidity. Spillage of gallbladder contents has been reported to occur in 9 to 20% of operations during the dissection (75%), traction (15-51%) or extraction (25%) of the gallbladder (1,2). Inadvertent traction of gallbladder and monopolar electrocautery use when it has been dissected from the liver bed, forced delivery of the gallbladder through the umbilical port orifice that is too narrow, or inadvertent perforation of the gallbladder by the sharp piece of the grasper instrument are the main causes of bile and calculi spillage leading abscesses and sinus formation in the abdominal cavity or wall (7,8). This patient was thought to have a very friable edematous gallbladder wall, accidental spillage of a greater stone occurred although the operation note denied the stone dropping. Possibly trying to retrieve through the subcostal ports, not all the stones could be removed and some were retained at abdominal wall-rectus sheath. In time, inflammation and foreign body reaction caused calcium deposits around the spilled gallstone which subsequently was enlarged. We agree that routine use of endobag, a detailed examination of the extracted gallbladder wall integrity would decrease these types of complications.

The lost gallstones were reported to cause a vast range of complications such as intestinal obstruction, abdominal wall sinuses and abscess, retroperitoneal masses, dyspareunia, empyema, urethral fistulas, even three years after the operation (1). However, their management is controversial. Considering these severe consequences, most surgeons prefer to find and remove all retained stones as well as surgical clips. Some studies have yet recommended a conversion to laparotomy in special cases with multiple pigment stones (9,10). On the other hand, several experimental studies supporting the idea that the dropped gallstones do not cause a great problem, believe to leave them after washing the abdomen with a saline solution and performing an antibiotic treatment (11,12).

However, a more common practice is to remove as many spilled stones as possible laparoscopically followed by irrigation of the abdominal cavity by normal saline. Clinical and experimental studies have shown that intraperitoneal gallstones could form a nidus of late infection (12). To reduce this complication, excessive traction of the gallbladder should be avoided during dissection, and gallbladder should be grasped with non-toothed, delicate forceps. Prior to extraction, gallbladder contents should be aspirated, and the port site incision should readily be enlarged to accommodate the gallbladder and to extract larger stones. In the event of perforation, the gallbladder should be placed in a plastic bag, spilled stones should be retrieved where possible and excessive irrigation used to remove the bile.

As clearly seen in our case, abdominal wall sinus due to retained gallstone in trocar sites is a long-term complication that should be managed carefully during operation to avoid misinterpretations and overcome time-consuming inappropriate managements.

References


