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Port site missed stones presenting as chronically discharging sinus

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Abstract

Recurrent discharging sinus of the port site after laparoscopic Cholecystectomy is an uncommon complication of spilled, missed gall stones. The chronically discharging sinus may mimic atypical mycobacterial infection of the port site or neoplasm. High index of suspicion must be maintained to diagnose this rare complication of port sites due to missed stones while retrieving the gall bladder specimen through the port openings. Port site complications not only add to the stress and morbidity to the patient, but also undermine the benefits of minimal invasive surgery. Awareness of this entity is important in order to develop preventive protocol, in future.

Keywords: Port site infection, missed gall stones, laparoscopic cholecystectomy, discharging sinus

Introduction

Spillage of gall stones during laparoscopic Cholecystectomy may occur during the dissection of a distended or inflamed gall bladder from liver bed, trauma to the wall of gall bladder by the grasping forceps of assistant or forceful or careless extraction of gall bladder through the port site ^[1]. Although spilled stones left in the peritoneal cavity and the abdominal wall rarely causes clinically significant complication, but in some cases it increases morbidity; in the form of sinus, fistula, intra-abdominal and parietal wall abscess and mass; increased hospital stay and hospital visits, bad cosmetic scars, stress, delay in return to work, increased cost and disappointing for both the patient and surgeon, in the era of minimally invasive surgery ^[2]. Spilled gall stones now have emerged as a distinct entity necessitating awareness by the general surgeon. The dropped gall stones are irritants because of chemical constituents and are source of infections, as well. The dropped irritant gall stones cause the increased secretion in the close vicinity of stones. The fluid along with the source of infection invariably leads to the formation of port site sinus, fistula, intra-abdominal, lumbar and parietal wall abscess and mass and even life-threatening severe sepsis ^[3].

Factors that increase the risk of complications from “spilled” stones include acutely inflamed gall bladder, elderly, obese patients, presence of adhesions, spillage of pigmented stones, multiple stones and stone size of >1.5cm ^[4]. The overall incidence of complications from dropped stones is 8.5%. Increased awareness of port site missed stones may significantly influence an overall outcome of laparoscopic Cholecystectomy ^[5, 6].

Case Report

A 35 year old female patient with known case of seizure disorder on oral carbamazepine, presented to the surgical outpatient department as a case of recurrent discharging sinus of epigastric port area for 1 ½ years. She had undergone laparoscopic Cholecystectomy at a higher centre 1 ½ year back. Her post-operative period was uneventful for 2 months, except for itching over the surgical scar of epigastric port. Subsequently she started with discharge from the wound and she was prescribed oral antibiotics and regular dressings at his nearest medical centre each time she presented there with pain and small discharging wound. Pain and discharge used to subside for few days to months only to reappear again. Finally she reported to surgical outpatient department after 1 ½ year of her illness.

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Fig 1: Showing Chronic discharging sinus of Epigastric port region.

On local examination, a sinus tract was present over old surgical scar of epigastric port site, with thin serous discharge, and with signs of local inflammation (Figure 1).

Hematological examinations were within normal limits. Ultrasonography of abdominal wall showed multiple hyper dense shadowing, thin fluid collection and thin walled sinus tract in the region of epigastric port. Under local anesthesia, vertical elliptical incision was given and excision of the sinus tract was done which showed three stones; one large (12mm) and two small stones of 6mm each (Figure 2). The wound was primarily closed. Post-operative period was uneventful. The missed gall stones may have accidentally spilled from the gall bladder during removal through the port site during laparoscopic Cholecystectomy. Histopathology of the sinus tract showed chronic granulation tissue, with no evidence of granulomatous or malignant pathology. Tissue and fluid culture did not show any growth of bacteria or atypical mycobacteria.



Fig 2: Showing removed stones from the epigastric port.

Discussion

Gall bladder retrieval through a port site is seen as a critical step in laparoscopic Cholecystectomy and is often associated with wound contamination and the loss of stones [7]. As compared to intraperitoneal spillage, the perforation of gall bladder during retrieval through port site and its related complications have not been reported frequently. The estimated incidence of these complications is 0.6-0.8%, and mostly present between 12 days to 12 months after surgery [8]. However, this complication is even reported after 20 years of laparoscopic Cholecystectomy [9]. Every effort should be made to avoid spillage of gall stones during retrieval through the port site, as it leads to significant

morbidity and even poses diagnostic challenge, later on. The main reason of perforation during gall bladder extraction is the small incision of port which puts the gall bladder under high pressure. Perforation is easily avoided if extension of skin incision is performed when needed. Suctioning of gall bladder is done to reduce the size and stones are removed with an ovum forceps. The incidence of port site infection (PSI), perforation and spillage of stones can also be reduced by using sterile endobag [10]. Aspiration of distended and tense gall bladder can also be done before dissection from the liver bed. Correct plane identification between the gall bladder and liver bed and meticulous dissection are necessary to prevent perforation of gall bladder and spillage. Techniques used to prevent stone spillage from a perforated gall bladder are suturing/stitching the perforation, placing an endo-loop, clipping the perforation or by holding the perforated area with a grasper. Meticulous irrigation of the port after spillage and extraction of spilled stones should be done under direct vision. The retrieval of stones through the epigastric port and supra umbilical port are found to be equally efficient in terms of operating time, complications, extendibility of the incision, hospital stay, cosmesis, ease of use and acceptability by both patient and surgeon. However, port site pain was found to be most commonly associated with the epigastric port irrespective of whether it was used for extraction of gall bladder or not [11].

If spillage occurs, it should be properly recorded or documented and patient should be counseled to avoid clinical misinterpretation of neoplasm and waste of health resource. The patient should be followed up regularly.

Conclusion

Spilled gall stones and its acute and delayed complications have almost emerged as a distinct entity. Though asymptomatic in majority of cases, it may present with port site infection, sinus, fistula, intra parietal abscess and intraabdominal or pelvic abscess. Meticulous preventive measures should be adapted to prevent the spillage of gall stones during dissection, grasping and retrieval through a port. Port site complications are newer procedure related events and require notification to update the literature and design protocol to prevent these complications, in future.

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