WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.453
Volume 13, Issue 17, 1017-1026. Case Study ISSN 2277–7105

CASE STUDY OF CHOLECYSTOCUTANEOUS FISTULA AND ITS MANAGEMENT

[1]*Dr. Kamesh Pagare and [2]Dr. Nitin Nalawade

[1]PG Scholar Shalyatantra Department, Tilak Ayurved Mahavidyalaya, Pune.

[2]Guide - Professor, Shalyatantra Department, Tilak Ayurved Mahavidyalaya, Pune.

Article Received on
19 July 2024,

Revised on 09 August 2024,
Accepted on 29 August 2024

DOI: 10.20959/wjpr202417-33463

***Corresponding Author**
Dr. Kamesh Pagare
PG Scholar Shalyatantra Department, Tilak Ayurved Mahavidyalaya, Pune.

ABSTRACT

Cholecystocutaneous fistulas are becoming increasingly uncommon as a result of early detection and treatment. We present a case of cholecystocutaneous fistula that developed following the removal of a percutaneous drain for the treatment of acute cholecystitis with gallbladder empyema. Recurring infection and the presence of gallstones resulted in fistulization of the gallbladder fundus and the formation of a tract along the path of the drain. The patient presented with recurrent right upper quadrant stomach pain, purulent discharge from the fistulous orifice. He underwent an Open Subtotal Cholecystectomy and fistula excision.

KEYWORDS: We present a case of cholecystocutaneous fistula that developed following the removal of a percutaneous drain for the treatment of acute cholecystitis with gallbladder empyema.

INTRODUCTION

Cholecystocutaneous fistulas are a rare complication of cholecystitis. Thilesus described their occurrence for the first time in 1670. However, at the time, fistulas were a typical consequence of chronic and untreated cholecystitis. According to a 2005 study, there have been 226 cases reported in total, with fewer than 25 in the last 50 years. The lower prevalence in recent times can be ascribed to faster detection and treatment with antibiotics or surgery. Fistulas are most usually associated with gallstones, despite the fact that they can occur in acalculous cholecystitis and gallbladder cancer. Obstruction of the cystic duct generates increased gallbladder pressure and diminished perfusion with necrosis, resulting in gallbladder perforation. The gallbladder's contents may then flow into the peritoneal cavity,

forming an abscess or a fistula due to adherence to the duodenum, colon, or abdominal wall, commonly via the gallbladder's fundus. The right upper quadrant is the most typical place for the fistula's exit tract, but other locations have been described, including the gluteal region, umbilicus, and right groin. Cholecystocutaneous fistulas are most common in older women over the age of 60, most likely due to coexisting illness and nonspecific symptoms that make diagnosis difficult.

CONCEPTUAL STUDY

CASE STUDY: 75 yr old male patient, having C/O: Pain at Rt. Hypochondrium since 1.5 years, Pus discharge from Rt. Hypochondrium since 2 months. His condition gradually worsen day by day. He reported occasional nausea and vomiting but no food association.

AIM: To show case of management of Cholecystocutaneous Fistula.

OBJECTIVES: 1) To observe surgical management of Cholecystocutaneous Fistula.
2) Describe the pathophysiology of cholecystocutaneous fistulas.
3) Identify principles of evaluation and management of cholecystocutaneous fistulas.

MATERIALS AND METHODS

Name XYZ Person, 75 yr old male patient, Hindu by religion, occupation as worker.
PAST HISTORY
S/H/O: B/L Eye Cataract Surgery (2012)
Drainage of Pus from empyema of gall bladder. (2022)
Exploration of abdomen (2023)
M/H/O: No any medical history.
K/C/O: DM Type 2 since 2 year
on Rx. 1) Tab. Glimepride 1mg + metformin 500 mg 1 OD
Hypertension Since 10 year
On Rx 1) Tab. Amlodipin 5 mg + Atenelol 50 mg 1 OD
2. Tab. Atrovastatinn 10mg + Aspirin 1 HS.
No HTN /No Ashtma /No kochs /No Thyroid Disorder / No IHD.

PHYSICAL EXAMINATION

GC – Fair afebrile
Pulse Rate – 64/ min

BP- 130/70 mmhg.

CVS- S1S2 Normal

CNS – Conscious and Oriented

RS – AEBE Clear

PA – Soft and Non Tender

B- Passed

M -Passed.

GENERAL EXAMINATION

PALLOR- Not Seen

ICTERUS- Not seen

LYMPHADENOPATHY- No regional Lymphadenopathy.

LOCAL EXAMINATION

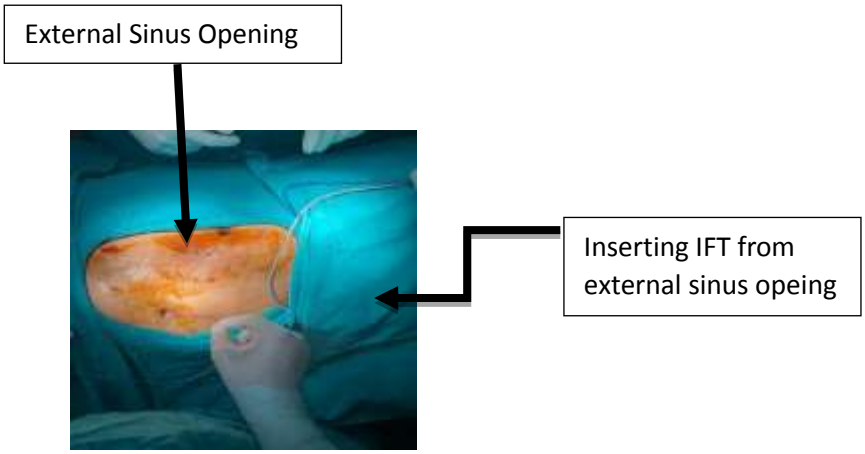
Inspection:

- External Sinus Opening over skin at

Rt. Hypochondriac region.

- Pus Discharge from opening site.
- Post operative scar noted Rt. Hypochondriac

Region (approx. 8 x 2 cm)



Palpation

- Local Temperature: Not raised
- Tenderness: Tenderness noted upon palpation
- Abdomen was soft, non-distended and positive Murphy's sign.

Blood investigations

- HB – 12.1 gm/dl RBC- 5.00 mill/cmm WBC- 7890/ cmm Platelets -3.32 lakh/cmm
- BSL ® - 133 mg/dl
- BUL – 41.6 mg/ dl Sr. Creatinine-0.94 mg/dl
- Serology -Negative
- PT- 15.8 sec INR- 1.10
- Electrolyte – Na- 142 mmol/L K^+ - 4.2mmol/L Cl^- - 104 mmol/ L
- CA 19.9 – 7.930 U/mL
- Chest X-ray (CXR): Within Normal Limits (WNL)
- ECG - WNL

Imaging Reports

USG Abdomen & Pelvis

- Gall bladder is not well distended.
- Shows e/o calculus measuring 1.1cms. Additional tiny calculi are also seen.
- A Track measures 5.2 x 1.0cms is seen from GB fundus to the skin.
- The walls are thick & well formed

Impression

• CHRONIC CALCULUS CHOLECYSTITIS.

• A CHOLECYSTOCUTANEOUS FISTULA.

MRCP

Observations

Well-defined, thick-walled, fluid filled fistulous tract is seen extending from fundus of gallbladder to anteriorly & inferiorly upto overlying skin in right hypochondriac region, representing cholecysto-cutaneous fistula.

Gall bladder is contracted, small in size with evidence of two calculi within. The largest calculus measures 1.4cm in diameter. Minimal gall bladder wall thickness is noted but no periGB collection is seen.

There is no dilatation of the intra hepatic biliary radicals. The common hepatic and bile ducts are well seen and do not show any intra-luminal filling defect. The pancreatic duct is not dilated.

The liver does not show any focal lesion.
The spleen, pancreas, adrenals and kidneys are within normal limits.
There is no free fluid or paraaortic lymphadenopathy.

Impression

➤ Well-defined, thick-walled, fluid filled fistulous tract is seen extending from fundus of gall bladder 'to anteriorly & inferiorly upto overlying skin in right hypochondriac region, representing cholecysto-cutaneous fistula.

➤ Contracted & small size gall bladder with evidence of two calculi within. The largest calculus measures 1.4cm in diameter.

➤ Minimal gall bladder wall thickness is noted but no periGB collection is seen.

➤ There is no dilatation of the biliary or pancreatic ductal system

FISTULOGRAM

MDCT of abdomen with fistulogram was done by using 4 mms slice thickness. Multiplanar reconstruction was done in saggital and coronal planes. Bowel loops were opacified with diluted oral contrast. 50 cc. of iodinated contrast was injected intravenously. Water soluble contrast was injected through an opening in the skin at right hypochondrium.

Clinical history: I & D in the past for gall bladder pathology. No details are available.

FINDINGS

There is a fistulous tract in the right hypochondrium. The fistula connects the skin with the gall bladder. An external opening is seen in the skin of right hypochondrium. The internal opening is seen into the gall bladder and peri- cholecystic soft tissue. A straight fistulous tract measuring 8-9 cms is seen. The fistulous tract is surrounded by thick granulation tissue. The features are suggestive of a cholecysto-cutaneous fistula.

MANAGEMENT: Surgical Management of Cholecysto-cutaneous fistula

1. Conservative management

- Conservative management includes antibiotics, fluids or ERCP.
- Percutaneous abscess drainage is performed immediately with the guidance of CT, or US, then all patients should receive management by antibiotics to manage infections and cholecystitis.
- Conservative management is performed to elderly patients who are unable to tolerate & unfit for surgery.
- Few cases were treated by using endoscopic retrograde cholangiopancreatography (ERCP) for CCF treatment, by removing calculi using ERCP balloon trawl and sphincterotomy.
- Percutaneous transhepatic gallbladder drainage (PTGBD) can be applied to treat CCF. Where the fistula heals under secondary intention after removing drainage tube.
- Conservative management cured few cases, helped relieve symptoms and improved patient's condition.

2. Surgical Management

- Surgical management includes open cholecystectomy and laparoscopic cholecystectomy.
- Open cholecystectomy with excision of the fistulous tract is considered as a standard option for management and it is curative in most cases. In the other hand, laparoscopic cholecystectomy with excision of the tract can be another acceptable and preferable option with advance experienced laparoscopic surgeons.
- Presence of comorbidity in patients lead to failure of healing, also difficulty in performing surgery for cachectic or elderly patients.

Sub Total Cholecystectomy with excision of fistul tract under General Anesthesia (G.A.)

A) Preoperative-

NBM

Bath

Consent

Inj. Xylocaine 2% sensitivity test

Prepare

Inj. Supacef 1.5 gm iv BD

Inj. Metro 500 mg iv TDS

Inj. Pan 40 mg iv OD

Inj. Atropine 0.64 mg IM ½ hr prior to surgery

IVF DNS 1 pint IV slowly

B) Anesthesia

Anesthesia- General Anesthesia

Sedation-Inj. Midazolam 1 gm Iv

Induction- Inj. Propofol 100 mg Iv

Inj. Scolin 100 mg Iv

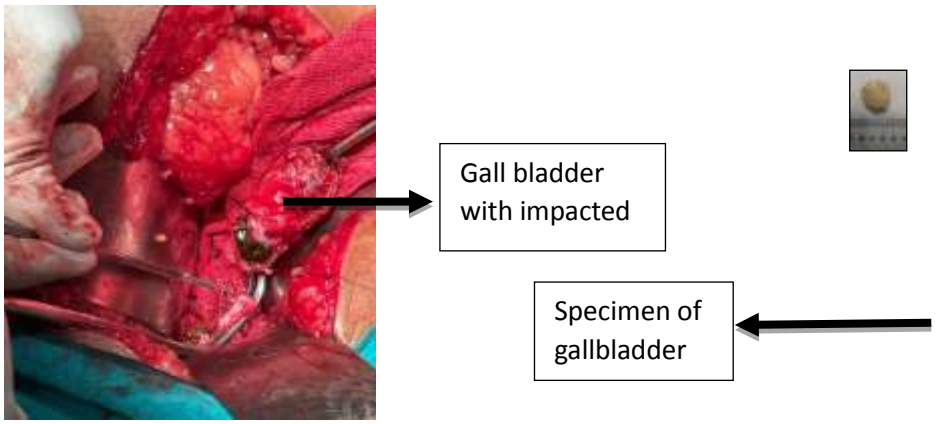
Other drug – Inj. Dexamethasone 8 mg IV

Procedure

Under all aseptic precaution Painting and draping done.

Rt. Paramedian Incision taken

Layerwise Dissection upto gall bladder & identified gall bladder & internally attach fistulous tract. ➢ Due to chronicity severe adhesion noted ➢ Using IFT through external opening tract identify and detach from skin ➢ The tract is traced till fundus of GB ➢ Now using Retrograde method (Fundus frist) omental adhesion over gall bladder is clear off. ➢ Subtotal cholecystectomy is done i.e Removing 2/3rd portion of gallbladder from body & remaning ligated with vicryl 2.0 and make stump of it: ➢ Because of dense omental adhesion calots triangle was not dissected.➢ Cystic artery ligated with vicryl 2.0: ➢ syringing done with cystic duct and CBD clear out wash with NS given. ➢ Hemostasis Achievement: ➢ Ensure hemostasis is achieved to prevent postoperative bleeding. ➢ ADK No.32 is placed in the GB stump for drainage. ➢ Layerwise Closure: ➢ The layers are meticulously closed, ensuring a secure and neat closure. ➢ Dressing: Done with betadine.



Post Operative

Antibiotics	Inj. Supacef 1gm IV BD (5 days) Tab ceftum 500 mg 1 BD (5 days)
Analgesics	Tab Enzoflam 1 BD
Nutritonal support	Tab celin 500 mg OD Syp Multivitamin 2 TSF BD
Post OP Course	Daily drainage evaluation and removal of drain after minimal drain output (on day 4). Dressing inspection on day 5 healthy healing wound, no any discharge and dressing with betadine done. Patient discharged after dressing and follow up after 7 days. Suture check, no any discharge from stich side & fistulous tract healthy healing wound and suture removal on POD 12th

Histopathological report

Impression

Cholecystectomy with excision of fistulous tract. Chronic Cholecystocutaneous fistula. No evidence of malignancy.

DISCUSSION

Cholecystectomy is the definitive treatment for this condition. However, in this case the fistula developed through the old drain tract, so surgical intervention was employed. As with complicated cholecystitis, Open techniques are favorable compared to Laprpscopic surgery and thus a Open cholecystectomy was undertaken in this case. The gallstones removed during cholecystectomy were of orange-brown color consistent with cholesterol stones. Histopathology showed chronic cholecystitis with no signs of dysplasia or malignancy.

Although fistula formation is now a rare complication of cholecystitis, it remains a possibility and should be considered in the differential diagnosis of any fistulous tract in the right abdominal wall. We have demonstrated that previous percutaneous drainage of an acute gallbladder infection can promote the formation of such a fistula if the infection is not properly dealt with or re-occurs.

CONCLUSION

- ✓ cholecysto-cutaneous fistula diagnosis and management represent one of the surgical obstacles, which we still encountered from time to time.

- ✓ We noticed through our review different ways of diagnosis and management. Most of them were dependent on the surgical experience and the advanced medical investigation equipment.
- ✓ In conclusion, there is no standard ways for diagnosis and management of CCF but according to our review; we think that each surgeon should choose the best way to deal with CCF patients depending on patients ‘quality, available equipment and advanced experienced surgeons.

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