ORIGINAL RESEARCH PAPER

Surgery

KEY WORDS: mesenteric cysts, gossipyboma, abdominal lumps.

ABDOMINAL LUMPS: ALWAYS AN ENIGMA! - OUR JOURNEY WITH MESENTERIC CYSTS

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ABSTRACT

INTRODUCTION: Mesenteric cysts are rare intra abdominal lesions, often discovered incidentally and sometimes misdiagnosed as common abdominal conditions, as most patients present with non-specific complaints of abdominal pain and distension, or an abdominal mass.

AIMS AND OBJECTIVES: This paper rekindles the need for awareness of mesenteric cyst during diagnosis of abdominal lumps owing to the rarity of the condition and its non specific presentation, and to determine its incidence in a tertiary centre .

RESULTS: On retrospective study, 3 cases of mesenteric cysts were reported out of 15,000 admissions over a period of 27 months, in Alluri Sitarama Raju Academy of Medical Sciences , Eluru during a period of June, 2016 to August, 2018, among which two were chylolymphangioma and lymph cyst respectively and the other was reported as Gossypiboma .

CONLUSION: Cysts of the mesentery are considered as surgical rarities. Despite its low incidence , a high suspicion of index is needed in all cases of abdominal lumps with ambiguous presentation and in patients presenting with undiagnosed abdominal pain.

CASE REPORT 1:

We report a case of a 52 years female patient referred to General surgery OPD with

- c/o non bilious vomitings, diffuse dull aching abdominal pain on & off episodes since 6 months,
- h/o Loose stools occasionally every 6 months
- No h/o abdominal distension & loss of appetite
- No h/o Burning micturition
- No h/o Constipation.

Past history – Similar c/o observed from last 5 years with occasional vomitings, diarrhoea and abdominal pain.H/o Surgical intervention (Tubectomy 28 years back, HYSTERECTOMY 9 yrs back) . P3L2A1D1, NVD, hysterectomised at 43yrs of age

H/O - T2DM since 9 years on regular medication, Hypothyroidism since 4 months on Tab.Thyronorm 25mcg/OD.

USG: A slightly enhancing well, defined soft tissue density lesion measuring 7.8 X7.6 cm noted in the lower abdomen which appears to be arising from the right adnexa likely –

1. Benign ovarian tumour
2. Pelvic mass

CECT: A well defined intra peritoneal heterogenous lesion with minimal peripheral rim enhancement & calcification in right iliac fossa with few mildly enlarged lymphnodes & adjacent fat stranding.

- 1.Ovarian/Mesenteric origin
- 2.Hydatid cyst

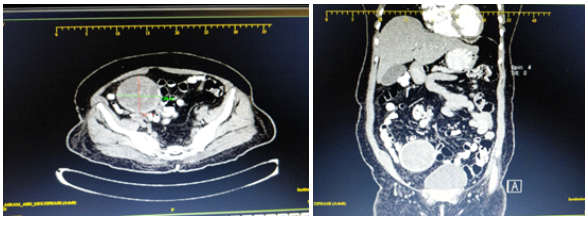


Fig 1. Contrast enchanced CT showing a heterogenous lesion with minimal peripheral rim enchancement in right iliac fossa not arising from the bowel.

Intra operative findings showed mass of size 10*10*6cm noted along mesentery, 15cm from ileo caecal junction adherent to mesentery and mesenteric border of ileum. Patient underwent excision of the cyst along with the involved ileal segment with mesentery and end to end anastomosis was done. Post operative period was uneventful.

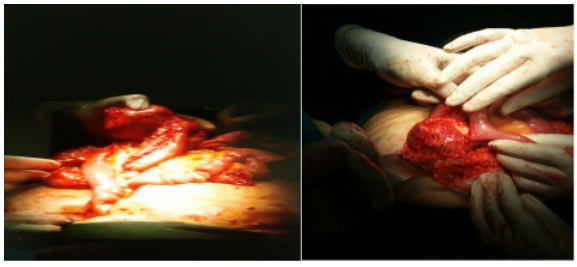


Fig 2, 3 showing mass adherent to mesentery and mesenteric border of ileum.

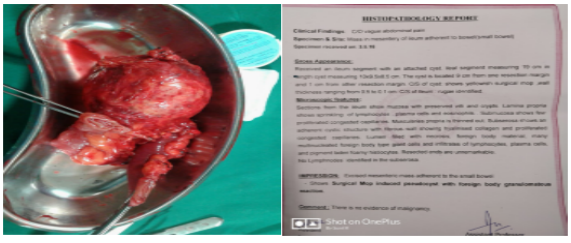


Figure 3,4 : Excised specimen along with adherent bowel and histopathological report respectively.

HPE IMPRESSION: Surgical mop induced foreign body granulomatous reaction.

FIGURES 5,6: Retained surgical mop in the excised specimen sample.

DISCUSSION:

Materials (guaze pieces, mops, instruments) are sometimes inadvertently left in the body after surgical operations. Mops are the commonest objects forgotten.[2] The implications for the patient and the surgeon are grave. The purpose of this presentation is to rekindle awareness of the phenomenon of Gossypiboma,

highlight the implications and stress its prevention.

The term ***Gossypiboma*** is derived from the Latin word "gossypium", which means cotton, and the Swahili word "boma", which means place of concealment.[3] Gossypiboma is a term used to denote a mass of cotton material, usually gauze, sponges and towels, inadvertently left in the body cavity at the end of a surgical operation.[3,4] It usually mimics other conditions such as a pseudotumour or a gastrointestinal stromal tumour. Other surgical materials may similarly be forgotten in the body, such as artery forceps, pieces of broken instruments or irrigation sets, scissors, needles[4] . The condition is uncommon but its prevalence is difficult to be accurately documented due to under-reporting of the cases. The incidence of Gossypiboma is difficult to estimate because of not being reported, but it has been reported that varies from 0.01% to 0.001%.[1] The high degree of under-reporting has been attributed to the fear of litigation.[6]

The manifestations of Gossypiboma may be non-specific and may take weeks, months or even years from the time of the provoking surgery. Garry and Aggarawal have stated that the interval between the originating surgery and manifestations of the disease may range from **eleven days to twenty-eight years.**[5] Therefore diagnosis may be delayed and may be attended by serious morbidity and even mortality. X-ray and USG are useful in diagnosis if the gauze carries radio-opaque markers but, CT where available provides sure diagnosis. [6,12] Characteristic CT features of abdominal Gossypibomas include: spongiform appearance with gas bubbles , low-density mass with a thin enhancing capsule, calcifications deposited along the network architecture of a surgical sponge.[6,7,12]

Many conditions favour the occurrence of Gossypiboma. The technical competence, skills and awareness of the surgeon and the theatre nursing staff are important. The following risk factors have been recorded as most significant factors favouring the occurrence of Gossypiboma: emergency operations, team fatigue, unplanned change in the operation and patients with high body mass index.[8] Even though gossypiboma is preventable it is unlikely to be completely eliminated.

FATE OF A RETAINED FOREIGN BODY:

A retained piece of cotton material evokes two different types of reaction. There is an exudative reaction which leads to the formation of abscess and an aseptic fibrinous response, which creates adhesions and encapsulation and eventually results in the development of a foreign-body granuloma. Fistulisation may occur between the mass and the bowel lumen or other organs such as the urinary bladder, and such transmigration may leave a persisting fistula.[9] The phenomenon of transmigration and fistulisation is caused by inflammation and pressure on the bowel, resulting in necrosis of the bowel wall at that point and subsequent sealing off of the defect.[10,11]

PREVENTION:

To prevent Gossypiboma, sponges are counted by hand before and after surgeries. This method was codified into recommended guidelines in the 1970s by the Association of periOperative Registered Nurses (AORN) .[12] Four separate counts are recommended: the first when instruments and sponges are first unpackaged and set up, a second before the beginning of the surgical procedure, a third as closure begins, and a final count during final skin closure.[13] In the United States, radiopaque threads impregnated into surgical gauzes were first introduced in 1929 and were in general use by about 1940.[14] Newer technologies for gauze tracing include electronic article surveillance system which uses tagged surgical sponge that can be detected electronically, bar codes applied to all sponges and detectable with bar code scanners[15].

WHO Global Initiative for Emergency and Essential Surgical Care - SAFE SUGERY SAVES LIFE.

The World Alliance for Patient Safety initiated work on the Challenge in January 2007. The focus of the Challenge is the WHO Safe Surgery Checklist. The checklist identifies three phases of an operation, each corresponding to a specific period in the normal flow of work: Before the induction of anaesthesia ("sign in"), before the incision of the skin ("time out") and before the patient leaves the operating room ("sign out").[16] For safe surgery, WHO clearly emphasizes on accurate counting of instruments and guazes and mops before signing out.

CONCLUSION:

We herein report a case of Gossypiboma resulting from a retained surgical mop that had been left in peritoneum for ***9 years*** after a hysterectomy operation presenting as a rare intra abdominal lesion ***- Mesenteric Cyst.*** Despite its low incidence, the diagnosis should be considered in all patients presenting with unexplained symptoms, mass, or fistulae with a history of prior surgery . We conclude that Gossypiboma occurs most commonly after intra-abdominal operations.[17,18] Women are at increased risk during obstetric and gynaecological operations, though both sexes are affected.[17] The condition carries potentials for harm to the patient and medico-legal litigations.

CASE REPORT 2:

A 24 year old male patient came to OPD with a chief complaint of pain in paraumbilical region, colicky type, non radiating and no aggrevating or relieving factors

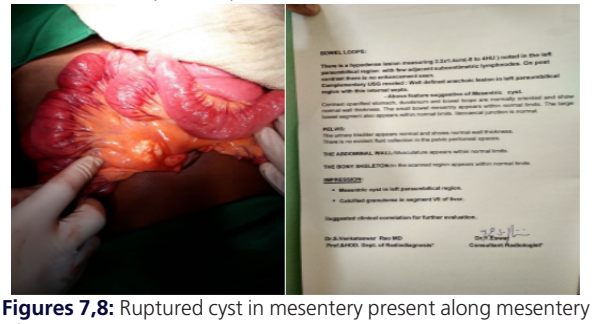
- No h/o loss of weight or appetite
- No vomitings/ nausea
- No h/o fever / trauma
- No constipation or loose stools

Per abdomen – soft
Tenderness present in para umbilical region,
No guarding , no ridgidity
No rebound tenderness
Bowel sounds present

On Routine blood investigations including haemogram, serum electrolytes, renal function tests, thyroid profile, coagulation profile were normal.

- USG: Well defined anechoic lesion in left para umbilical region with thin internal septa.
  - suggestive of Mesenteric Cyst
- CECT: Hypodense lesion measuring 2.2*1.4cm noted in left para umbilical region with few adjacent subcentimetric lymph nodes.

Impression: ***Mesenteric cyst*** in left para umbilical region . Calcified granuloma in segment 7 in liver Intra operatively, a cyst of size 3*3 cm noted in mesentery of small bowel. Excision of the cyst was done . Post operative period was uneventful.



Figures 7,8: Ruptured cyst in mesentery present along mesentery of small bowel and histopathological report respectively.

HPE IMPRESSION:

Excised lymphnode and Mesenteric Cyst–Shows features suggestive of ***cystic lymphangioma*** and reactive lymphnodes.

CASE REPORT 3:

- We report a case of a 75 year old female came to our OPD with a chief complaint of dull aching pain in right iliac fossa since 2months,
- H/o vomitings since 20 days , non bilious , 2-3 episodes per day
- H/o low grade fever since 20 days with on and off episodes not

associated with chills and rigors
- No h/o abdominal distension
- No h/o loss of appetite or weight
- No h/o constipation or loose stools

Per abdomen :
soft, tenderness noted in RIF, No palpable masses, no guarding , no ridgidity, no organomegaly, Tubectomy scar noted in lower abdomen Bowel sounds present .

USG : Grossly distended stomach with duodenal wall thickening 2nd and 3rd part with enlarged coeliac lymph nodes.

CECT: Well defined non enhancing multi septated cystic lesion adjacent to mesentery of jejunum.

? ***Mesenteric cyst*** Intra operatively, a cyst of size 4*4 cm noted in root of the mesentery adherent to the superior mesenteric vessels. Sub total excision of the cyst wall with marsupialization of remnant cyst wall done . Mesenteric rent was closed with intermittent sutures. Post operative period was uneventful.

Figures 9,10: a. Cyst noted over small bowel mesentery b. Cyst excised from mesentery

DISCUSSION:
Mesenteric cysts in addition to being a rare entity, these cysts can pose a diagnostic challenge because patients often present with non-specific symptoms.

There are several classifications of these formations, among which histopathologic features include 6 groups :
- 1.Cysts of lymphatic origin-lymphatic cysts (hilar cyst) and lymphangiomas,
- 2.Cysts of mesothelial origin-benign or malignant mesothelial cysts,
- 3.Enteric cysts,
- 4.Cysts of urogenital remnants,
- 5.Dermoid cysts and
- 6.Pseudocysts-infectious or traumatic **and foreign body induced[19].**

Investigations for mesenteric cysts include mainly - USG,CECT[7].The standard approach to managing mesenteric cysts include - **Total Cystectomy - open method & laparoscopic, with or without resection and anastomosis** of the involving bowel segment[20] .

CONCLUSION:
The paucity of literature on mesenteric cysts makes it difficult to create a gold standard for the management of these patients. Mesenteric cysts are treated successfully with complete surgical excision. Following surgery, patient prognosis is excellent and recurrence is low. However, the optimal approach for the best outcome is still unknown owing to the rarity of the condition.

Conflict of interest:
There are no conflict of interest statements. Neither of the authors have any financial interests, commercial associations, or other affiliations which may pose a conflict of interest to disclose. Furthermore, this paper was not supported by any external funding, nor were any special products, devices used in the work presented.

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