Textiloma presenting as a lump in abdomen: A case report

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A R T I C L E   I N F O

Article history:
Received 6 October 2020
Received in revised form 18 October 2020
Accepted 18 October 2020
Available online 23 October 2020

Keywords:
Case report
Gossypiboma
History taking
Laparotomy
Swabs
Medicolegal

A B S T R A C T

INTRODUCTION: Textiloma or Gossypiboma is a mass comprising of cotton matrix within the body left accidentally during a surgical procedure. It is estimated that retained surgical foreign bodies occur one in every 5,500–18,760 inpatient operations but the incidence may be as high as one out of every 1,000–1,500 abdominal cavity operations, and even more common during emergency surgeries. There have also been rare case reports of Transmural migration of retained surgical swab which is a rare phenomenon. But even rarer is the incidence of retention of swab inside the small intestine in the previous procedure.

PRESENTATION OF CASE: A 29-year-old female coming with chief complaints of pain in abdomen since 1 year which was colicky in nature, present all over abdomen, non-radiating. The pain aggravated on eating food. Patient also noticed a lump in her abdomen since past 1 year. Abdomen was opened and the bowel was inspected. Enterotomy was performed and two swabs were removed from the intestine.

DISCUSSION: Prevention of this condition can be achieved by meticulous count of surgical materials in addition to thorough exploration of surgical site at the conclusion of operations and also by routine use of surgical textile materials impregnated with a radio opaque marker.

CONCLUSION: Although rare, a diagnosis of retention of swab or surgical instruments must be considered in cases of vague lumps in abdomen or in cases of intestinal obstruction, especially if the patient has had previous history of laparotomy.

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1. Introduction

Gossypiboma is a mass comprising of cotton matrix within the body left accidentally during a surgical procedure. The body may react to this foreign body through an exudative inflammatory reaction or an aseptic fibrotic reaction in order to encapsulate the cotton material and result into a mass [1]. This iatrogenic, unintentional but avoidable misfortune, often under-reported, has damaging effects upon the health of patients, and entails embarrassment as well as medico-legal consequences [2,3]. It is estimated that retained surgical foreign bodies occur one in every 5,500–18,760 inpatient operations but the incidence may be as high as one out of every 1,000–1,500 abdominal cavity operations, and even more common during emergency surgeries.

The most common retained foreign body during surgery is a woven cotton surgical sponge, which includes both laparotomy pads and smaller sponges (Fig. 1).

A variety of objects have been reported to be left in the abdominal cavity like surgical sponges, haemostatic forceps and pieces of drainage tubes [3,5]. Due to its small size, common usage and ill-defined shape, surgical sponges is the commonest to be left inside [5].

The presentations that may occur following retention of surgical sponges are pain, abdominal mass, obstruction, peritonitis, adhesion, fistulas, abscess formation, erosion into gastrointestinal tract or extrusion of laparotomy pad via the rectum (Figs. 2 and 3).

In most of such cases, the swab gets retained in the pelvic and the abdominal flanks due to its space. There have also been rare case reports of Transmural migration of retained surgical swab which is a rare phenomenon. But even rarer is the incidence of retention of swab inside the small intestine in the previous procedure (Fig. 4).

We report a case of gossypiboma inside the intestinal cavity presenting as a case of lump in abdomen in a tertiary care hospital.

2. Case report

Patient was a 29-year-old female coming with chief complaints of pain in abdomen since 1 year which was colicky in nature, present all over abdomen, non-radiating. The pain aggravated on eating food. Patient also noticed a lump in her abdomen since past 1 year. History of 1–2 episodes of non-bilious vomiting on and off. History of loss of appetite and weight loss since 1 year. Patient gave a past history of similar complaints 12 years back for which she was admitted and diagnosed with abdominal tuberculosis. She was

https://doi.org/10.1016/j.ijscr.2020.10.081
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On Examination, she was afebrile. Her pulse was 86/mins and her Blood Pressure was 120/80 mmHg. Per Abdomen examination revealed a lump of size $8 \times 5$ cm at umbilical and hypogastric region. Skin over the lump was normal. Lump was mobile did not move with respiration. Tenderness was present over lump site. Guarding was present. There was no local rise of temperature at the lump site. Dull note was present on percussion. Auscultation revealed bowel sounds at the lump site. A midline vertical scar was present indicative of previous surgery.

Xray abdomen was inconclusive. Ultrasound abdomen revealed linear echogenicity with post acoustic shadowing in the abdomen with features likely suggestive of calcified mass.

CECT Abdomen revealed an ill-defined mass with calcification and air foci in jejunum loop suggestive of bezoar with likely intussusception and focal inflammatory changes.

Following the CT report, a psychiatric evaluation was done for this patient to rule out trichotillomania, pica or any eating disorders. Patient’s psychiatric evaluation did not reveal any such abnormalities.

Patient was prepared for surgery and was performed by an Associate Professor with 20 years of experience in the field of general surgery and was assisted by two junior residents with 3 years of specialized training.

Abdomen was opened and the bowel was inspected. Evidence of previous bowel anastomosis was seen. Hard lump was felt within the bowel loop. Enterotomy was performed. There was presence of hard material inside the bowel. Bowel was milked and hard material was pulled out of the bowel. Upon cleaning and further inspection, the hard material was recognized as swabs retained from previous surgery. Two swabs were removed from the intestine. The intestine was properly washed and closed. Warm saline wash was given and the abdomen was closed.
Patient recovered well postoperatively and was put on full oral diet on day 5. Patient’s weight was recorded on discharge and after 1 month of follow up. An increase of 5 kg weight was recorded. Patient also noted relief of previous symptoms and also had an increased appetite.

3. Discussion

The first case of retained surgical sponge was described by Wilson in 1884. The incidence is estimated to be 1 in 5500 surgeries [4]. The abdomen is the most common site (56%), followed by the pelvis (18%) and the thorax (11%) [2].

The operation during which the surgical swab or gauze is left behind is usually abdominal and often pelvic, where the deepness of the region facilitates the disappearance of blood soaked pieces of gauze under the bowel or retractors. But in our case the swab was neither left in the abdomen nor in the pelvis, but was retained inside the small intestine just near the site of previous surgery.

The presentation may be acute or relatively delayed and pathologically two types of foreign body reactions can be induced. One is an aseptic fibrinous response that creates adhesions and encapsulation, resulting in a foreign body granuloma. This occurrence usually follows a rather silent clinical course. The other response is an exudative type that leads to abscess formation with or without secondary bacterial infection [5]. The development of an abscess represents the body’s attempt to extrude the foreign material either externally or internally into hollow viscus [6].

The most unusual sequelae is the erosion of the sponge into the intestine [7]. The retained sponge may lie partially or entirely within the bowel lumen, or it may eventually pass per rectum. Elimination of the sponge may occur as early as two weeks following laparotomy or it may be delayed as long as several years.

Plain abdominal radiograph can help diagnosis, when a radio opaque marker of the swab is seen. However, this imaging method is not helpful when these markers are disintegrated or fragmented over time [9]. Ultrasonography and CT appearances of retained surgical sponges may be widely diverse. Sonographically, retained surgical sponges are echogenic and they create an intensive and sharply delineated acoustic shadow. This acoustic shadow can be present even in the absence of air and calcification [10]. On CT scans, in addition to spongiform gas bubble, a low density mass with prominent and prolonged rim enhancement may suggest a retained surgical sponge granuloma [11].

In our scenario the surgical swab retained in our patient lacked a radio opaque marker; thus, the diagnosis was not possible with plain radiograph. Ultrasonography could only reveal post acoustic shadowing, possibly because the retained surgical swab was present completely within the lumen of small bowel. CT scans could not differentiate the mass between a swab and a bezoar.

Though the diagnosis of left out foreign body can be made by taking careful history, clinical examinations and by doing some necessary investigations, yet some patients are diagnosed on the operating table during re-laparotomy. Surgical exploration is the answer to the problem [9].

In 2003, Gawande and colleagues [3] described the most common risk factors associated with “retained foreign bodies” are-emergency operations, unplanned changes in operating procedures and higher body mass index of operating patients. The prevention of this condition can be achieved by meticulous count of surgical materials in addition to thorough exploration of surgical site at the conclusion of operations and also by routine use of surgical textile materials impregnated with a radio opaque marker that are easily detected by intraoperative radiological screening when the count is suspicious.

4. Conclusion

Although rare, a diagnosis of retention of swab or surgical instruments must be considered in cases of vague lumps in abdomen or in cases of intestinal obstruction, especially if the patient has had previous history of laparotomy.

The embarrassment faced by the surgeon and the medicolegal implications of this iatrogenic complication are tremendous and all preventive measures should be taken to avoid this as no excuse is justifiable.

Declaration ofCompeting Interest

There were no conflicts of interest in the making of this article.

Funding

There were no expenditures in the making of this article and thus no need for funding for this research.

Ethical approval

The study is exempt from ethical approval.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author’s contribution

All Authors have contributed to the case report.

Registration of research studies

As this case report does not involve any new device or surgical technique, the research has not been linked with research registry.

Guarantor

Dr. Zansher Khan Nazar.

Provenance and peer review

Not commissioned, externally peer-reviewed.

SCARE 2018 guidelines

The work has been reported in line with the SCARE 2018 criteria. Reference of the Guidelines have been mentioned in the references section.

References

[1] V.C. Gibbs, F.D. Coakley, H.D. Reines, Preventable errors in the operating room: retained foreign bodies after surgery, Curr. Probl. Surg. 44 (2007) 281–337, Ref: https://tinyurl.com/ybh5wly9.
[2] S.P. Stawicki, D.C. Evans, J. Cipolla, M.J. Seamom, J.J. Lukaszczyzk, et al., Retained surgical foreign bodies: a comprehensive review of risks and preventive strategies, Scand. J. Surg. 98 (2009) 8–17, Ref: https://tinyurl.com/y83z5hj5.
[3] A.A. Gawande, D.M. Studdert, E.J. Orav, T.A. Brennan, M.J. Zinner, Risk factors for retained instruments and sponges after surgery, N. Engl. J. Med. 348 (3) (2003) 229–235.
Further reading

[4] R.R. Cima, A. Kollengode, J. Garnatz, A. Storsveen, C. Weisbrod, C. Deschamps, Incidence and characteristics of potential and actual retained foreign object events in surgical patients, J. Am. Coll. Surg. 207 (1) (2008) 80–87.

[5] J.W. Hyslop, K.I. Maull, Natural history of the retained surgical sponge, South. Med. J. 75 (6) (1982) 657–660.

[6] P.G. Teixeira, K. Inaba, A. Salim, C. Brown, P. Rhee, T. Browder, et al., Retained foreign bodies after emergent trauma surgery: incidence after 2526 cavitory explorations, Am. Surg. 73 (10) (2007) 1031–1034.

[7] W. Wan, T. Le, L. Riskin, A. Macario, Improving safety in the operating room: a systematic literature review of retained surgical sponges, Curr. Opin. Anaesthesiol. 22 (2) (2009) 207–214.

[8] S.A. Syed, R. Ahmed, S. Ahmed, A. Ahmed, Gossypiboma: case reports and literature review, Profess. Med. J. 7 (2000) 270–275.

[9] K.B. Robinson, E.J. Levin, Erosion of retained surgical sponges into the intestine, Am. J. Roentgenol. 96 (1966) 339–343.

[10] L.B. Mason, Migration of surgical sponge into small intestine, JAMA 205 (1968) 122–123.

[11] H.S. Crossen, D.F. Crossen, Foreign Bodies Left in the Abdomen, CV Mosby, St. Louis, 1940, pp. 762–770.

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