Transmural migration of surgical sponge evacuated by defecation

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The spontaneous defecation of the retained surgical sponge is very rare. Here, we report a case of retained surgical sponge that migrated into the colon and was evacuated by defecation.

CASE REPORT

A 40 years male had exploratory laparotomy for gunshot injury abdomen. He had jejunal resection and end to end anastomosis. His post-operative recovery was unremarkable and was discharged on 6th post operative day.

Three weeks after discharge, he came back in surgical OPD. He had off and on pyrexia and pus discharging from the upper end of laparotomy wound. He was admitted and the upper part of the incision opened in emergency department and wound washed with normal saline.

The discharge of pus persisted alongwith episodes of fever. The abdominal examination was unremarkable and DRE was inconclusive. We suspected retained abdominal sponge. His plain X-ray abdomen was inconclusive and abdominal ultrasonography showed 7 x 5 cm cavity in upper abdominal wall at the site of pussy discharge, no other finding in rest of abdomen. On the next operating list, the wound in the upper abdomen was explored and the cavity containing pus washed with normal saline. No extension of the cavity found to the rest of the abdomen.

Patient's fever settled and pus from the wound decreased. Patient was discharged and advised dressing and follow-up visits to OPD.

Seven days after discharge from the hospital, He appeared in OPD with complaint of lower abdominal pain. His abdomen was soft and rest of examination was unremarkable. Investigations were also inconclusive. He came in the evening and in the same night he defecated the abdominal sponge. His condition improved and was discharged after two days.

DISCUSSION

The surgical error of retained abdominal sponge is a persistant global problem. The incidence of retained surgical sponge is with a frequency of one per 100,000 operations [2].

A retained surgical sponge can also be referred to as a gossypiboma, which is derived from gossypium (Latin, cotton) and boma (Swahili, place of concealment) [3]

Clinically, a retained sponge may be asymptomatic or it may result in a granulomatous reaction with abscess formation, intestinal obstruction or fistula formation.

Pathologically, two types of foreign body reactions can occur [4]. One is an aseptic fibrinous response that creates adhesions and encapsulation; this results in the formation of a foreign body granuloma. The second response is exudative in nature, and leads to abscess formation with or without secondary bacterial invasion.

Occasionally, a retained sponge may be indistinguishable from an intra-abdominal abscess. Sponges with radiological markers are easily picked up on X-rays. CT images can provide comprehensive details about the lesion in most cases; air bubbles and calcification of the cavity wall, as well as contrast enhancement of the rim are commonly visualized. It has been suggested that air bubbles identified inside of the retained surgical sponge are caused by: perforation or erosion in the intestine, inflammatory reaction or abscess formation, or air trapped between the synthetic fibers of the surgical sponge. Air bubbles have been reported inside of retained surgical sponges without intestinal migration; thus the most likely hypothesis is that air bubbles are seen after being trapped among synthetic fibers [5].

Migration of a retained surgical sponge into the bowel is rare compared to abscess formation. A retained surgical sponge can penetrate the intestine or urinary bladder, and may result or cause mal-absorption, intestinal obstruction, gastrointestinal hemorrhage, and transurethral protrusion.[1][6][7].

Penetration into the intestines is more frequent and occurs commonly into the ileum or the colon. However, this process may occur in any part of the intestinal tract, and occurs as a result of the inflammation in the intestinal wall that involves necrosis[6]. Once a surgical sponge has migrated into the intestinal lumen, it is advanced further by the peristaltic activity of the bowel[7]. The open intestinal loop can be closed after complete migration of a surgical sponge[1]. In cases of bowel penetration, the sponge usually stops in the terminal ileum resulting in intestinal obstruction[6]. However, in our case, the migrating surgical sponge was spontaneously expelled during defecation.

Review of literature revealed one similar case in Korea where a young female who expelled the retained abdominal sponge per rectum.[8] We cannot explain the course of events leading to the migration of the sponge; in addition we were surprised not to be able to identify a fistulous tract. However, previous cases where a fistulous tract has not been identified have been reported[6]. Therefore, we believe that the fistulous tract closed spontaneously after the sponge penetrated the bowel wall.

CONCLUSION

Although radiologists commonly consider an intraperitoneal location for a retained surgical sponge, rare cases of an intra-luminal location have been confirmed inside of the small bowel or colon as in this case. Therefore, radiologists should be alert to the possibility of an intra-luminal location, although it is rare, to prevent unnecessary and invasive surgery

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