

Transmural Migration Of Surgical Sponge Following Cholecystectomy: An Unusual Cause Of Gastric Outlet Obstruction

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Citation

S Tiwary, R Khanna, A Khanna. *Transmural Migration Of Surgical Sponge Following Cholecystectomy: An Unusual Cause Of Gastric Outlet Obstruction*. The Internet Journal of Surgery. 2005 Volume 7 Number 2.

Abstract

Background: Gastric outlet obstruction is caused mainly by malignancy or pyloric stenosis due to peptic ulcer. Other causes of obstruction include extrinsic compression from adjoining neoplasm or inflammation of surrounding structures. Foreign body impaction after oral intake is also associated with obstruction rarely. But transmural migration of foreign body causing obstruction is very rare.

Methods: We managed two cases of gastric outlet obstruction because of migration of foreign body through duodenal wall.

Results: Most notable thing noted was no evidence of perforation, fistula, hemorrhage or peritonitis on examining gastro duodenal wall during laparotomy. Surgical sponge was removed after gastrotomy.

Conclusion: Transmural migration of surgical sponge left during laparotomy may cause gastric outlet obstruction.

INTRODUCTION

Gastric outlet obstruction is liable to be caused by foreign body impaction in conditions like trichobezoar, phytobezoar, lactobezoar etc. These obstructions are always after oral intake of impacting material. It is very rare to find cases of gastric outlet obstruction after transmural migration of retained intraperitoneal foreign body through gastro duodenal wall. During course of migration, different complications e.g. fistula, abscess, peritonitis, hemorrhage, obstruction, pseudotumor syndrome, foreign body granuloma are likely to occur. We are reporting two such cases of gastric outlet obstruction. These patients underwent open cholecystectomy three and five months back. Barium meal X-ray examination suggested obstruction with filling defect and upper gastrointestinal endoscopy revealed cotton fibers in the duodenum, so laparotomy was done.

CASE REPORTS

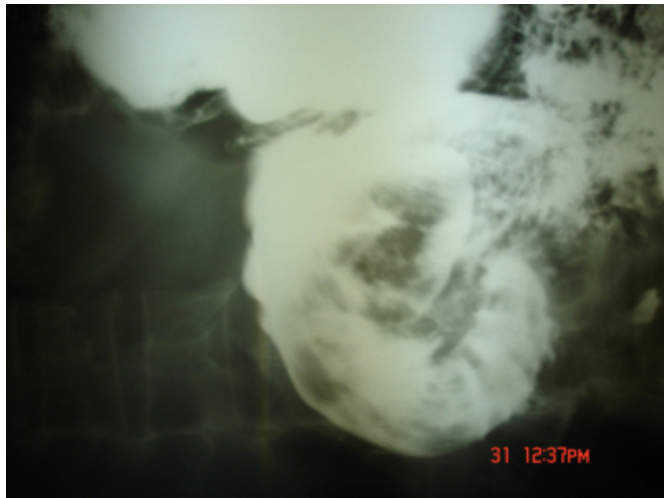
Our both cases have similar history of cholecystectomy in past. After cholecystectomy, intractable vomiting was always present. Patients required repeated intravenous fluid support. Finally decision of laparotomy was taken after diagnosis of gastric outlet obstruction.

CASE 1

A 35 year female was referred to our university teaching hospital of Northern India with gradually progressive intractable vomiting since 3 months. Cholecystectomy was done 3 months back elsewhere. Patient remained unwell even after operation. Though pain was mild occurring off and on, vomiting was refractory despite intake of all medications. Usually vomiting increased after intake of food. Appetite was preserved but patient avoided due to fearsome vomiting. Weight loss was present. Food particles were present in vomitus. On clinical examination, a vague lump could be felt in right upper abdomen. Laboratory analysis revealed white blood cell count of 12000 mm^3 with neutrophils 80%. Hemoglobin was 8.0 gm/dl. Serum Sodium was 132 meq/L, Potassium 4.1 meq/L, Chloride 101 meq/L. Plain X-ray abdomen revealed nothing significant. Upper GI endoscopy showed few cotton fibres in the duodenum. Barium meal examination showed filling defect (Figure 1) in pyloric antral area as well as first and second part of duodenum.

Figure 1

Figure 1: Filling defect in Barium Meal Study



Laparotomy revealed no fistula, ulceration, or bleeding over serosal surface of stomach and duodenum but pyloric end of stomach and duodenum were adherent densely to liver bed. An intraluminal lump was obviously palpable occupying antro-pyloric region. After doing gastrotomy surgical sponge was removed and anterior wall of stomach was closed in two layers. Patient recovered uneventfully in post-operative period and discharged on day 10.

CASE 2

A 30 years female was referred to our hospital for intractable vomiting since 4 months. She underwent cholecystectomy four and half months back. After cholecystectomy she was well for 7 days, but later on she developed abdominal discomfort, which progressed with associated vomiting off and on. Vomiting was gradually progressive and refractory to medications. In the meantime ultrasound and X-ray done revealed no abnormality. On physical examination a vague lump was felt in right upper abdomen. Barium meal X-ray was suggestive of foreign body impaction causing gastric outlet obstruction. Upper GI endoscopy showed cotton fibers in duodenum.

Exploratory laparotomy revealed palpable intraluminal mass in distal stomach and duodenum. By doing gastrotomy surgical sponge was recovered. Patient did well in post-operative period and discharged on day 12.

DISCUSSION

Gastric outlet obstruction is caused by malignancy or pyloric stenosis due to peptic ulcer. Other causes include extrinsic compression from neoplastic or inflammatory swellings

from adjoining structures. Rare causes of gastric outlet obstruction include foreign body impaction after oral intake in conditions like trichobezoar, phytobezoar, lactobezoar etc. But transmural migration of intraperitoneal retained foreign body through duodenal wall causing gastric outlet obstruction is very rare.¹ If intraperitoneal foreign body erodes through duodenal wall, usually erosion, ulceration, bleeding, fistula, abscess, obstruction, foreign body granuloma may be formed. But in our both cases, foreign body migration occurred leaving no evidence of erosion, ulcer, bleeding, fistula or abscess. Despite migration of large foreign bodies, abscess or peritonitis never manifested clinically. No signs of migration were found on serosal surfaces. As a result, ultimate manifestation was gastric outlet obstruction.

Retained surgical sponges are the most common postoperative intraabdominal foreign bodies (Gossypibomas)². Pathological responses may be aseptic fibrinous leading to encapsulation, adhesion and granuloma formation or exudative leading to abscess formation³. More complications are observed in exudative type. The common ones are bowel obstruction², perforation, pseudotumor, granulomatous peritonitis, bleeding. The low index of suspicion due to rarity to the condition and long latency in the manifestation of the symptoms frequently leads to delay in diagnosis or missed diagnosis till laparotomy.

Delayed post-operative intractable vomiting after laparotomy should always raise a suspicion of retained foreign body after surgery. Foreign body left may migrate through gut wall either silently or with sequelae of erosion, ulceration, bleeding, fistula, abscess, peritonitis. Clinical presentation may vary from mild abdominal discomfort to intractable vomiting. Fever, anorexia, loss of weight, weakness may vary in severity. Foreign body left in peritoneal cavity finally may lead to obstruction after migration through wall and this may remain undiagnosed or misdiagnosed increasing morbidity and mortality.

CONCLUSION

In conclusion retained surgical sponge should be a possibility in post operative patients presenting with unexplained symptoms such as pain or intestinal obstruction⁴. Early recognition of this condition may prompt appropriate treatment reducing morbidity and mortality.

Ideally surgical sponges should have a radio opaque lining but as in both of our cases the sponges used were made by

the hospital so the radio opaque lining was not present and that is why they could not be diagnosed on plain X-ray abdomen.

References

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