Gastric Gangrene “An Iatrogenic Misadventure”

Nazir Salroo · Shahnawaz Ahangar

Received: 1 September 2009 / Accepted: 9 September 2009 / Published online: 1 June 2012
© Association of Surgeons of India 2012

Abstract In gastrointestinal system gangrene commonly involves intestines. Involvement of stomach is a rare finding. Herein we describe a case of gastric gangrene secondary to herniation of stomach through an iatrogenic defect. Gangrene of the stomach is a rare and a catastrophic occurrence as stomach is a highly vascularised organ. Gastric gangrene could be secondary to atherosclerosis, arterial embolism, iatrogenic gelfoam embolism, venous thrombosis, gastric volvulus, bulimia nervosa, endoscopic haemostatic injections, diaphragmatic hernia and infectious gastritis. Most reported cases have occurred due to gastric volvulus (Amin El-Gohary and Etiaby, *Paedr Surg Intl* 9:486–488, 1994; Al-Salem, *Pediatr Radiol* 30(12):842–5, 2000). Few cases have been reported as complicated hernias either a Bochdalek hernia (Ghanem, Chankun, Brooks, *BJS* V74(9):779, 2005) or as peristomal hernias which initially lead to gastric outlet obstruction (Ellingson, Maki, Kozarek, Patterson, *J Clin Gastroenterol* 17(4):314–6, 1993).

Keywords Gastric gangrene · Iatrogenic defect

Case

A 21 years old girl reported to our surgical emergency department in shock within 6 hours of severe upper abdominal pain radiating to back and multiple episodes of vomiting which contained nonbilious contents. The patient had undergone cystojejunostomy four years back for a nonresolv-

ing pseudopancreatic cyst and splenopexy for symptomatic wandering spleen one year back.

Patient was fully resuscitated.

Plain X-ray Abdomen Ground glass appearance, gas under diaphragm and absence of gastric air bubble.

Ultrasonography Free fluid in abdomen and lot of gases.

Abdominal Paracentesis A dark brown (non bilious) fluid was aspirated which had an Amylase of 2534 IU/l.

Meanwhile the patient was shifted to SICU and a central line was placed. As the central venous pressure reached upto 8, patient was shifted to the theatre.

Operative Findings

1. About 3 liters of free fluid in the peritoneal cavity, non bilious and contained food material.
2. The transverse colon was freely mobile with a 15X7 cm defect towards the splenic flexure through which stomach had herniated. (Fig. 1)
3. Proximal two thirds of stomach was gangrenous with a 3x2 cm perforation towards cardiac end (Figs. 2 and 3)
4. Spleen was seen fixed to the abdominal wall in left hypochondriac region posterior to defect in the mesocolon.
5. The area where cystojejunostomy was done was alright.
6. There was no other perforation, gangrenous changes in the rest of the gut.
7. Other organs were grossly normal

N. Salroo · S. Ahangar (✉)
SMHS Hospital,
Srinagar, india
e-mail: shanz101@gmail.com

Fig. 1 Iatrogenic defect in the transverse mesocolon

Fig. 4 Proximal gastrectomy

Fig. 2 Stomach herniated through the defect

Fig. 3 Gangrenous proximal part of stomach

Fig. 5 Closed stump of remaining antrum

Procedure

‘Exploratory laparotomy with proximal two-third gastrectomy with end to side oesophagoanteriorostomy and pyloroplasty’

Thorough normal saline washes were given, herniated stomach reduced and proximal *two-third* gastrectomy was done. The lower part of esophagus was mobilized. The distal few cms of antrum were preserved (Fig. 4 and 5). The continuity was restored by closing the antrum and anastomosing the end of esophagus with the side of antrum followed by Heineke_Mikulicz pyloroplasty. Ryle’s tube was negotiated into duodenum across pyloroplasty. Mesocolic defect was closed down. Tube drains were kept in Morrison’s, pelvis and perianastomotic site. Incision was closed back and ASD done. Specimen was sent for histopathological examination (Figs. 6 and 7)

The patient was shifted back to SICU and coupled to ventilator. The patient remained hemodynamically stable throughout and formed adequate amount of urine. About seven units of whole blood, seven FFPs and eleven units of platelet concentrate were transfused. TPN was given. The patient was weaned off the ventilator on 4th POD. Morrison’s

Fig. 6 Resected specimen

drain was removed on 4th POD, pelvic drain on 6th. Perianastomotic drain and Ryle's tube were kept in place for ten days after conray contrast study (Fig. 8) revealed a leak proof anastomosis. Then enteral feeding was started with liquids and shifted gradually to solids. The patient was discharged home on 19th postoperative day.

Discussion

This patient had undergone open cysto-jejunostomy four years back; stomach had been mobilized per-operatively. Then splenopexy was done for wandering spleen. Some amount of colonic mobilization had been done to free adhesions. During

Fig. 7 Longitudinal view of resected specimen

Fig. 8 Gastrograffin study on 10th POD

mobilization the rent created in the mesocolon had been overlooked. The patient had done well after post-surgery except for some epigastric discomfort especially after taking major meals. The patient attributed it to previous surgeries.

Possibly during meals her stomach would have been descending down and stretching the mesocolic defect giving her a sense of discomfort. And this time the stomach had completely herniated followed by gangrene and perforation and the patient went into shock. The patient then underwent the third surgical procedure. The patient is under strict follow-up and a diet chart has been advised.

References

1. Amin El-Gohary M, Etiaby A (1994) Gastric volvulus in infants and children. *Paedr Surg Intl* 9:486–488
2. Al-Salem AH (2000) Intrathoracic gastric volvulus in infancy. *Pediatr Radiol* 30(12):842–845
3. Ghanem N, Chankun TSL, Brooks PL (2005) Total gastric gangrene Complicating adult Bochdalek hernia. *BJS* V74(9):779
4. Ellingson TL, Maki JH, Kozarek RA, Patterson DJ (1993) An incarcerated peristomal gastric hernia causing gastric outlet obstruction. *J Clin Gastroenterol* 17(4):314–316