

Gangrenous Perforation Of Stomach

N Malhorta, S Singla, S Marwah, R Goel, N Marwah, R Taneja

Citation

N Malhorta, S Singla, S Marwah, R Goel, N Marwah, R Taneja. *Gangrenous Perforation Of Stomach*. The Internet Journal of Anesthesiology. 2007 Volume 16 Number 2.

Abstract

A 15 years old patient was admitted in emergency department with complaints of pain in abdomen associated with abdominal distension since one day. Patients with suspected perforation of stomach should be taken up for urgent exploratory laparotomy to decrease the mortality. Such patients may be haemodynamically unstable and require critical care with inotropic and ventilatory support.

CASE REPORT

A 15 years old patient was admitted in emergency department with complaints of pain in abdomen associated with abdominal distension since one day. She had a single episode of vomiting the previous day. She was afebrile and haemodynamically stable. There was distention in upper abdomen. However, there was no tenderness and guarding. X-ray abdomen showed single fluid level in the stomach. USG showed normal abdominal study. Ryle's tube drained two litres of bilious fluid. After Ryle's tube aspiration abdomen became soft on palpation and there was no tenderness and palpable lump. Per rectal examination was normal. She was administered antibiotics and intravenous fluids. Her biochemical and haematological profile was normal. She was asymptomatic for next 24 hours. Ryle's tube was pulled out and patient allowed oral liquids.

On the next day the patient again had multiple episodes of vomiting and abdomen became distended, tense and tender. She became haemodynamically unstable; her heart rate increased to 130 min^{-1} and blood pressure decreased to $60/34 \text{ mmHg}$. Ryle's tube was reintroduced and right internal jugular vein cannulated. Opening central venous pressure (CVP) was $6 \text{ cm H}_2\text{O}$. CVP guided fluid therapy, inotropic support with dopamine and dobutamine and oxygen inhalation through ventimask (40%) were instituted. On abdominal paracentesis, bilious fluid came out. In the evening abdominal drain was introduced under local anaesthesia and monitored anaesthesia care. It drained 2.5 litres bilious fluid and abdominal distension subsided but the patient remained haemodynamically unstable. However urine output was adequate and biochemical profile and blood

gases were normal. Inotropic support with dopamine and noradrenaline was continued.

The patient was taken up for urgent exploratory laparotomy in emergency operation theatre. Inotropic drugs infusions were continued. Induction of anaesthesia was done with inj. ketamine 80mg iv and tracheal intubation with 7.0mm ID tracheal tube was facilitated with inj. suxamethonium 80mg iv. Intermittent positive pressure ventilation was instituted with 50% oxygen in nitrous oxide and isoflurane (0-0.5%). Analgesia was achieved with inj morphine 4.5mg iv and neuromuscular blockade maintained with inj atracurium 20mg iv. Intraoperatively, 1.5 litres bilious fluid was drained from peritoneal cavity and there was generalized peritonitis. There was a full thickness gangrenous perforation of anterior gastric wall measuring 8cm x 3cm in fundus of the stomach. (Fig.1) There was no other abnormal finding and rest of gastric mucosa, gastro-oesophageal junction, pyloric part of stomach and duodenum were normal. No distal obstruction was found. The rest of gut was normal.

Figure 1

Figure 1: Photograph showing gangrenous perforation of anterior gastric wall in fundus region of stomach



The gastric perforation was repaired in two layers after refreshing the margins. Tube gastrostomy was done, abdominal drain put and wound closed in layers. Intraoperatively, patient remained haemodynamically unstable with heart rate between 120-140min⁻¹ and blood pressure between 60/40 mm Hg and 90/50 mmHg. Trachea was not extubated and patient was shifted to intensive care unit and ventilatory support instituted. The patient remained haemodynamically unstable and could not be resuscitated. She expired six hours postoperatively. The histopathological examination of cut margins of gastric wall revealed non-specific inflammatory changes.

DISCUSSION

Gangrene of stomach is a rare and fatal condition. Etiology includes thrombo-embolism and occlusion of major arterial supply, ingestion of corrosive agents, volvulus of stomach, herniation of stomach through diaphragm and necrotizing

gastritis caused by organisms. ¹ In our patient, we had suspected stomach perforation but its gangrenous nature was surprising. The young age of patient almost rules out a thrombo-embolic event. Neither volvulus nor herniation of stomach was observed intraoperatively. There was no history of ingestion of caustic substance. There was generalized peritonitis that might have been caused by transmigration of organisms from stomach to peritoneal cavity. Thus the possible cause of gangrene could be some necrotizing infection.

The diagnosis of gangrenous perforation of stomach is usually made at laparotomy. However, in suspected cases preoperative endoscopy and endosonography may be beneficial. ² Definitive treatment is resuscitation with CVP guided fluid therapy, inotropic support, antibiotics and urgent exploration. The surgery should not be deferred for want of haemodynamic stability as mortality rate is can be as high as 100%.

To conclude, patients with suspected perforation of stomach should be taken up for urgent exploratory laparotomy to decrease the mortality. Such patients may be haemodynamically unstable and require critical care with inotropic and ventilatory support.

ADDRESS FOR CORRESPONDENCE

Dr. Naveen Malhotra Naveen Niketan, 128/19, Civil Hospital Road, Rohtak-124001 Haryana (India) E-mail: drnaveenmalhotra@yahoo.co.in

References

1. Dharap SB, Ghag G, Biswas A. Acute necrotizing gastritis. *Ind J Gastroenterol* 2003; 22: 150-51.
2. Iwakiri Y, Kabemura T, Yasuda D, Okabe H, Soejima A, Miyagahara T, et al. A case of acute phlegmonous gastritis successfully treated with antibiotics. *J Clin Gastroenterol* 1999; 28 (2): 175-77.

Author Information

Naveen Malhorta, MD

Associate Professor, Department of Anaesthesia, Post Graduate Institute of Medical Sciences

Sham Lal Singla, MS

Senior Professor, Department of Anaesthesia, Surgery, Post Graduate Institute of Medical Sciences

Sanjay Marwah, MS

Professor, Department of Anaesthesia, Surgery, Post Graduate Institute of Medical Sciences

Rahul Goel, MS

Senior Resident, Department of Anaesthesia, Surgery, Post Graduate Institute of Medical Sciences

Nisha Marwah, MD

Professor, Department of Anaesthesia, Post Graduate Institute of Medical Sciences

Rashmi Taneja, MD

Assistant Professor, Department of Anaesthesia, Post Graduate Institute of Medical Sciences