CASE REPORT

Gastrocolic fistula in a child following corrosive acid ingestion

Aureen Ruby DCunha, Susan Jehangir

Paediatric Surgery, Christian Medical College and Hospital Vellore, Vellore, India

Correspondence to

Dr Susan Jehangir,
susanjehangir@cmcvellore.ac.in

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SUMMARY

Gastrocolic fistulas in children are most commonly seen after placement of a percutaneous endoscopic gastrostomy. We present a 14-year-old girl who developed a gastrocolic fistula following accidental corrosive acid ingestion. On evaluation of her symptoms, a barium swallow identified the gastrocolic fistula. It healed spontaneously in 3 months. This was both unexpected and remarkable. To the best of our knowledge this is the first case of a gastrocolic fistula occurring following corrosive ingestion.

BACKGROUND

Gastrocolic fistula is defined as a pathological communication between the stomach and a segment of the colon. These are commonly associated with gastric ulcers (primary or secondary to non steroidal anti inflammatory drug (NSAID) usage), gastric or colonic malignancies, Crohn's disease, diverticular disease or chronic pancreatitis. In children these communications are usually iatrogenic following percutaneous endoscopic gastrostomy especially in neurologically impaired children with spinal deformities. To the best of our knowledge this is the first report of a gastrocolic fistula following corrosive ingestion that healed spontaneously.

CASE PRESENTATION

A 14-year-old girl presented to us 15 days after ingestion of a corrosive acid. She had consumed

Figure 2 Barium upper gastrointestinal study 3 months later demonstrating persistence of the dilated stomach with antral stricture, but resolution of the fistulous communication with the colon.

bathroom floor cleaning acid (the volume of which could not be quantified) after a domestic quarrel with her mother. She had complaints of episodic vomiting, was tolerating only clear liquids orally and had lost 2 kg following the incident. She did not have abdominal pain or diarrhoea. She did not have any history suggestive of inflammatory bowel disease or peptic ulcer disease and had not had any instrumentation or surgery after the incident. She was dehydrated, tachycardic and afebrile with a blood pressure of 90/70 mm Hg. She had a dry tongue with cool peripheries but her abdomen was soft and not tender. Her baseline blood investigations were unremarkable. She was resuscitated with intravenous fluids. A gastroscopy demonstrated a scarred strictured antrum beyond which the scope could not be negotiated. The barium upper gastrointestinal (GI) series showed a dilated stomach with almost complete obstruction of the gastric outlet. Barium was immediately seen to fill the transverse colon but no clear fistula could be demonstrated (figure 1). A fistulous communication could not be identified as the stomach was full of retained food particles. A feeding jejunostomy was done and she was asked to follow-up after 3 months for definitive surgery. In the interim period, though she had occasional non-bilious vomiting, she was otherwise well and gained weight. A repeat barium upper GI series demonstrated the antral stricture but this time the gastrocolic fistula could not be demonstrated (figure 2). At laparotomy there was a 3 cm pyloric stricture. Additionally, there was a healed scar seen

Figure 1 Barium upper gastrointestinal study at presentation demonstrating the gastric outlet obstruction and contrast filling the transverse colon.

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in the gastrocolic omentum on opening the lesser sac near the splenic flexure. A Heineke-Mikulicz pyloroplasty was done. Her postoperative recovery was uneventful and she was tolerating a graded oral diet at the time of discharge

Discussion

The incidence of gastric outlet obstruction following acid ingestion is estimated to be 20% of concomitant oesophageal strictures.¹ Isolated gastric strictures are less common. The oesophagus is protected due to the rapid transit of acid through it and the relative resistance of its squamous epithelium. The stomach bears the brunt due to spasm of the pylorus, resulting in prolonged corrosive exposure to the antrum. Coagulative necrosis of the exposed delicate columnar gastric mucosa leads to subsequent stricture formation.¹ Further, a tiny gastric perforation may elicit an inflammatory peritoneal reaction leading to adherence of the colon and subsequent fistula formation. The fistulous connection commonly arises between the greater curvature of stomach and the distal half of the transverse colon as in our patient, because of their close anatomical proximity separated only by the gastrocolic omentum.² Surgery remains the treatment of choice for gastrocolic fistulas.³ There is however, an expanding armamentarium of conservative options especially for small fistulas of benign origin. The options include endoscopic

injection of fibrin sealant into the fistulous tract,⁴ proton pump inhibitors for fistulas secondary to peptic ulcer disease⁵ and octreotide, a long-acting somatostatin analogue in fistulas of pancreatic origin.⁶ Surgical excision of the fistulous tract usually necessitates a diverting colostomy to allow healing.⁷ In this child the feeding jejunostomy successfully bypassed the fistula providing partial diversion. Also, the liquid content of the feeds provided through the feeding jejunostomy was of a low residue and thus facilitated the closure of the fistula by a rapid colonic transit. Further, the nutritional rehabilitation provided by the jejunostomy feeds aided spontaneous healing of the fistula.

Contributors ARD was responsible for the data collection, write-up, literature review, editing and submission process. SJ was responsible for the write-up, definition of intellectual content, literature search, critical review and editing.

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Learning points

- ▶ Gastrocolic fistula following corrosive ingestion has been unheard of till date.
- ▶ It is an extremely rare complication of a corrosive ingestion.
- ▶ Spontaneous resolution is possible when nutrition is taken care of and there is no malignancy or distal obstruction.

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