An unusual case of gastritis in an infant

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Acknowledgements

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Hx

• Baby AF, 10 month old Australian aboriginal girl presented to ED with billious vomiting for 2 days.

• No other illness.
Ex

• Lethargic and dehydrated requiring fluid resuscitation
• Blood stained nasogastric aspirates
• Mildly low Hb 141 g/l
• X ray abdomen – grossly distended stomach with intramural gas and pneumatoperitoneum.
Suggestive of emphysematous gastritis
Mx

- Laparotomy – confirmed pneumatosis of the stomach wall and lesser omentum.
- There was no peritoneal free air or contamination.
- Intraoperative gastroscopy – severe diffuse gastritis with sloughing of mucosa and ulceration.
- Duodenum was distended and could not be traversed beyond the level of ampulla of Vater.
- Duodenal web found at D4 and was resected.
Histology

• Duodenal web

• Biopsies from Oesophagus, gastric antrum and duodenum

• DDx - micrococcus
Sarcina organisms

• First documented in 1842 in the stomach contents of a patient with pain, bloating and vomiting

  • *Sarcina ventriculi*

• Nearly spherical cells 1.8-3 micrometres

• Distinct packeted morphology - tetrad or octad (8-10 micrometres)

• Gram positive cocci
• Non motile, acid tolerant bacteria - can live in low pH environment of stomach

• Organism on the luminal mucosal surface without direct invasion or reaction of the epithelium

• Obligate anaerobe
• Sole energy source is fermentative metabolism of carbohydrate, produces CO$_2$ as a by product

• Ubiquitous and found in soil and air

• Found in livestock and faeces of vegetarians

• Innocent bystander in healthy humans unless in the setting of gastro paresis or gastric outlet obstruction when it overgrows in stagnant food debris.
• Only 9 cases of human infection are reported in literature

• Ages 12-73yrs

• All cases had retained food in the stomach due to anatomic or physiologic delay in emptying the stomach

• Bariatric surgery, small bowel resection, pancreaticoduodenectomy, gastric pull through for oesophageal atresia, tumour/mass, diabetic gastroparesis, obesity and metabolic syndrome

• Complications – frothy vomiting, abdominal pain and distension, iron deficiency anaemia, gastric ulcer, emphysematous gastritis and gastric perforation
Management

• Commensal in patients with poor gastric emptying – No drug treatment. Identify the cause

• Prominent dysphagia or pain – PPI and prokinetic Rx

• Sarcina seen in an ulcer or eroded stomach – Gentamycin, metronidazole or ciprofloxacin to eradicate

• Confirm eradication with repeat endoscopy 3-6 months
• Baby AF recovered well from surgery.
• Emphysematous changes disappeared within a few hours.
• Discharged with PPIs

• Repeat endoscopy 7-8 weeks later – complete macroscopic and histological resolution.
• This is the only reported documented case of Sarcina in an infant.
References

• Sarcina ventricularis complicating a patient status post vertical banded gastroplasty: A case report. Journal of gastroenterology and hepatology research. 2015;4(2)


Thank you