An unusual case of gastritis in an infant

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Acknowledgements

- Dr Kunal Thacker – Paediatric gastroenterologist
- Dr Gareth Jevon – Paediatric pathologist

Hx

- Baby AF, 10 month old Australian aboriginal girl presented to ED with billious vomiting for 2 days.
- No other illness.

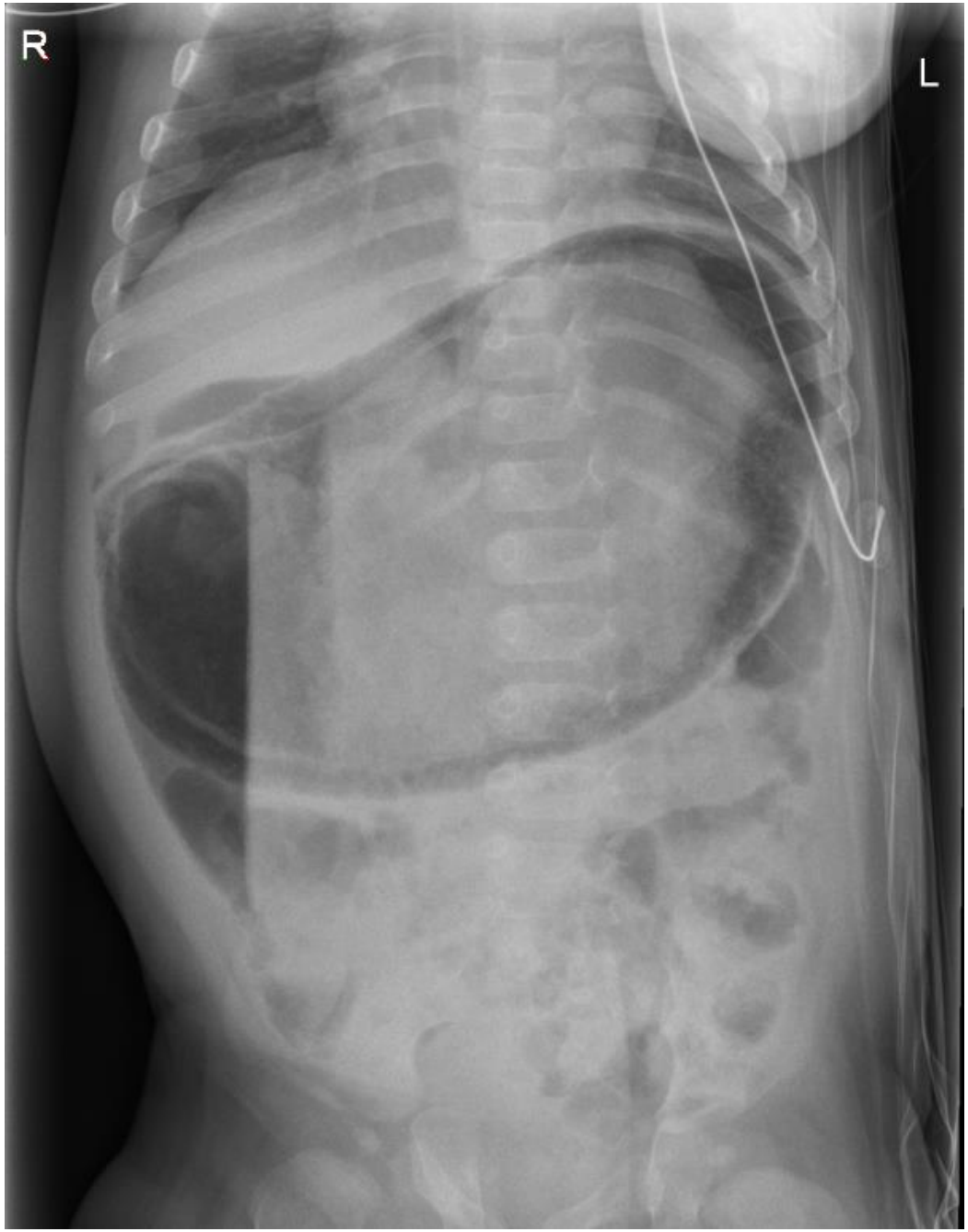
Ex

- Lethargic and dehydrated requiring fluid resuscitation
- Blood stained nasogastric aspirates

Ix

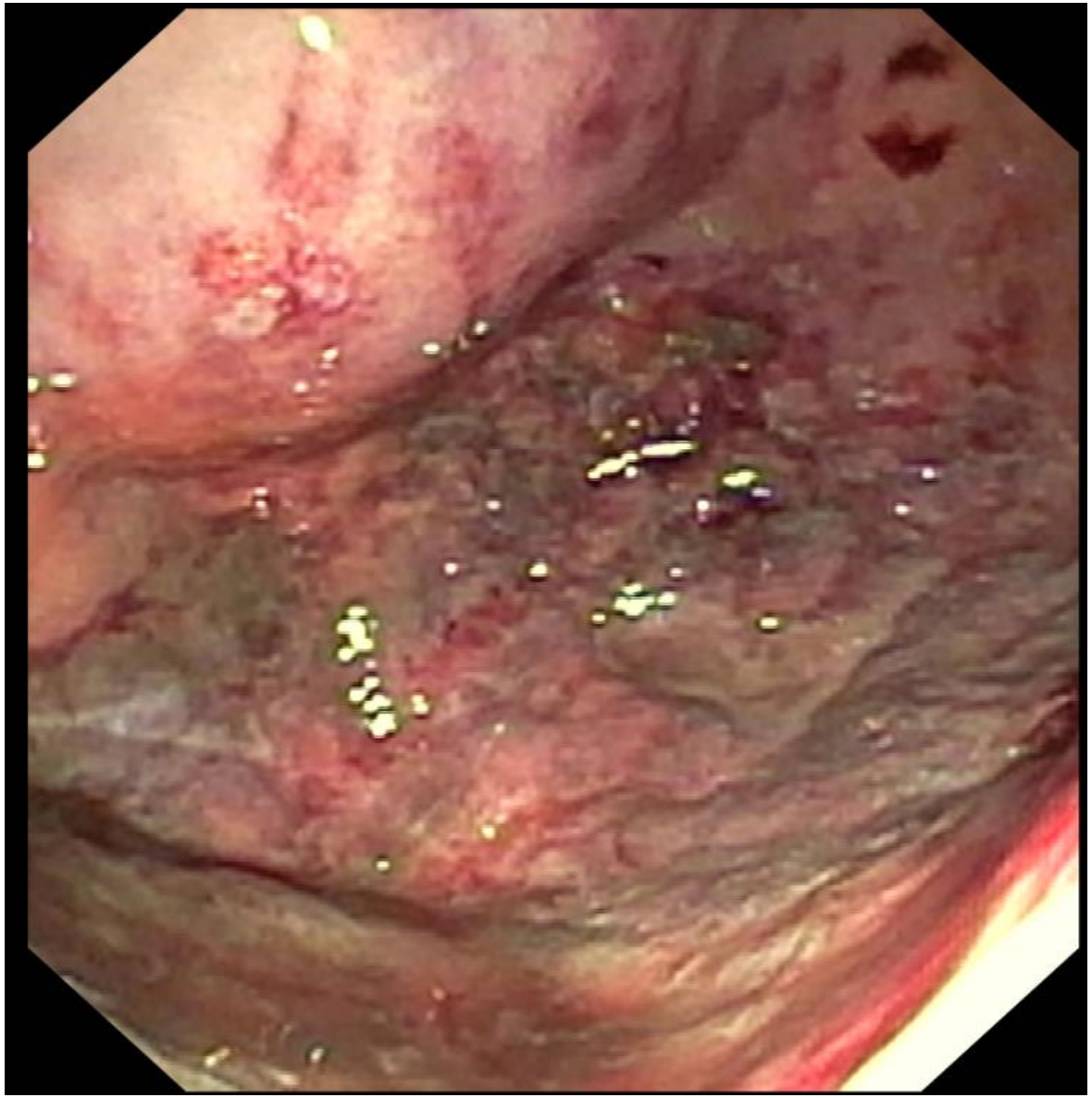
- Mildly low Hb 141 g/l
- X ray abdomen – grossly distended stomach with intramural gas and pneumatoperitoneum.

  Suggestive of emphysematous gastritis


R
L

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

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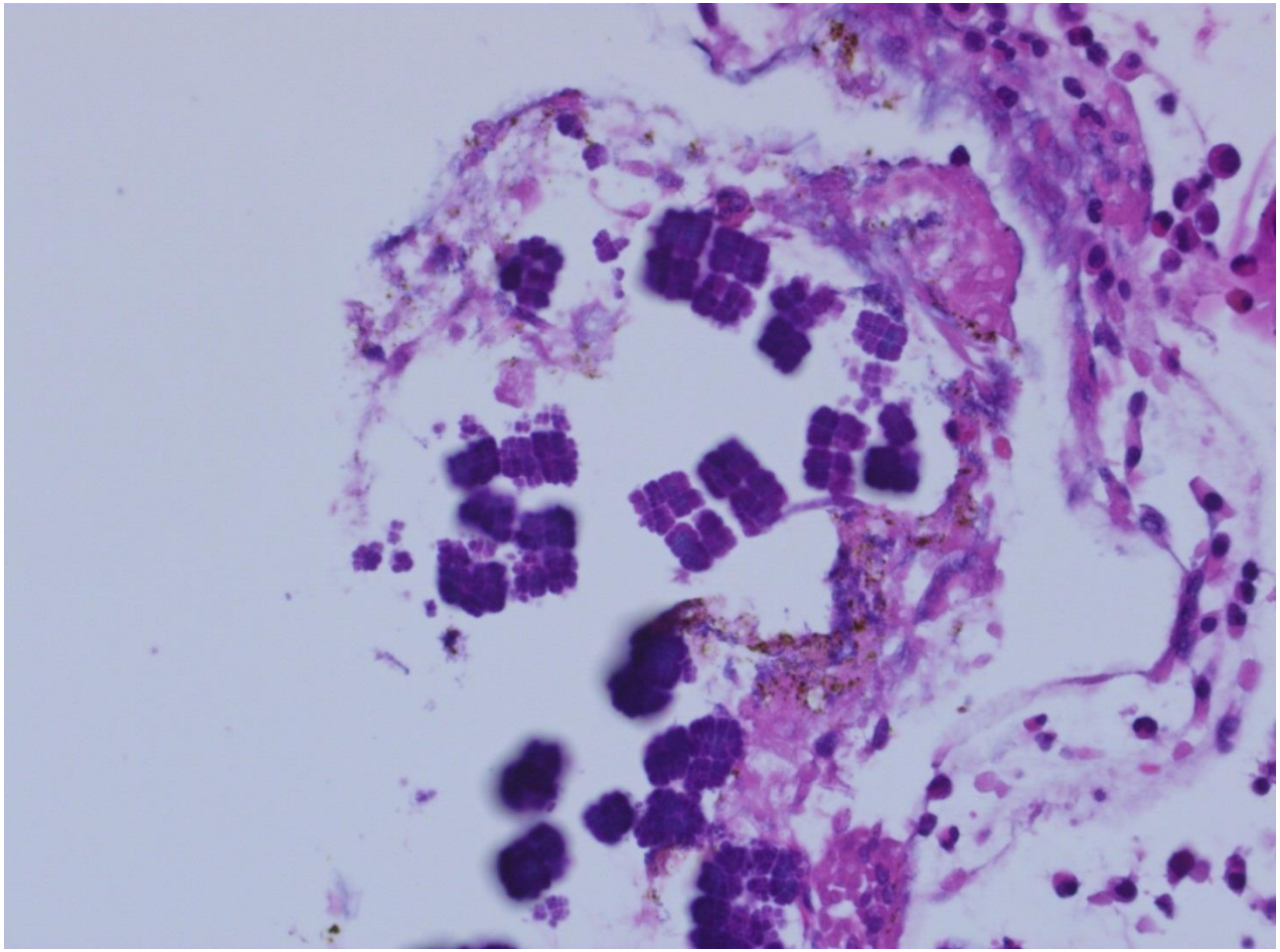

Thank you