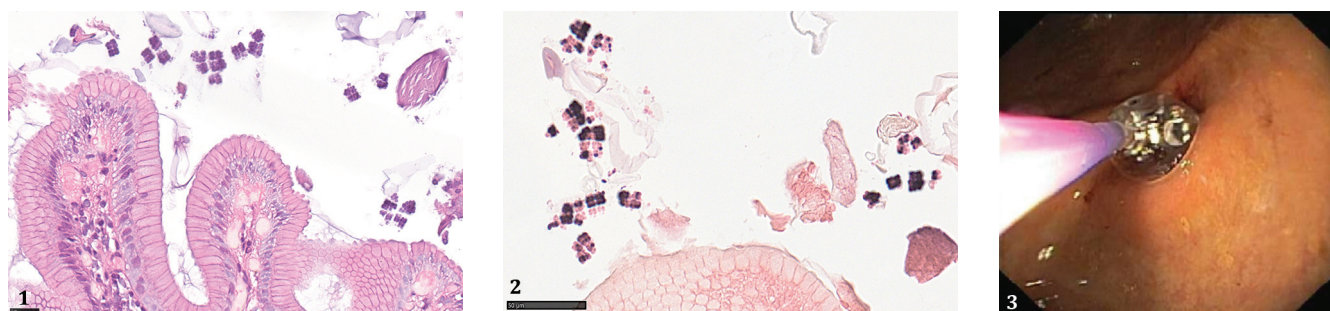


Endoscopic Balloon Dilation of a Pyloric Stricture Caused by *Sarcina Ventriculi* Infection

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A 61-year-old Caucasian male, without relevant past medical history, was admitted for vomiting, epigastric pain and weight loss (7 kilograms) in the last 3 months. Blood tests revealed acute kidney injury, hypokalemia and hypernatremia. Abdominal computed tomography scan showed gastric distension, with antrum and pylorus wall thickening. Upper gastrointestinal endoscopy (UGE) revealed a large quantity of retained food in the stomach. The gastric mucosa was diffusely hyperemic and marked prepyloric deformity was observed, causing difficulty in passing the endoscope. Endoscopic biopsies from the gastric antrum showed congestion, chronic inflammation and the presence of Gram-positive cocci morphologically consistent with *Sarcina ventriculi* (tetrads and octets of spherical microorganisms, around 3µm in diameter on the gastric foveolar surface) (Fig. 1). Gram staining showed positivity of microorganisms (Fig. 2); *Helicobacter pylori* being negative. The patient started treatment with metronidazole 500mg orally three times a day and ciprofloxacin 500mg orally twice daily for one week. He continued with proton pump therapy. UGE was repeated two months later with through-the-scope (TTS) balloon dilation up to 13 mm under fluoroscopy, without complications (Fig. 3). The patient presented clinical improvement and gradual oral food intake. Subsequent follow-up with an esophagogastroduodenal UGE one month later showed improvement of gastric erythema and a food bezoar. Another TTS balloon dilation was performed up to 15 mm, without complications. Subsequently, the endoscope passed through the pylorus to the duodenum, without rebound. Repeated biopsies were negative for *Sarcina ventriculi* organisms. Clinically, the patient's perception of overall health improved and at 4-month follow-up he was without gastrointestinal symptoms.

Sarcina ventriculi is a gram-positive organism rarely encountered as a human pathogen [1], usually reported in association with delayed gastric emptying [2]. There is no established standard treatment. Nevertheless, recent reports

documented its' successful eradication with antimicrobials effective against anaerobes [3, 4]. To the best of our knowledge, this is the first report of a successful endoscopic dilation performed on a patient with gastric outflow obstruction and *Sarcina ventriculi*. In our case, the combination of endoscopic dilation with antibiotic therapy resulted in clinical and endoscopic improvement. Although there are some case reports of gastric perforation associated with *Sarcina ventriculi* infection [5], we chose to perform endoscopic balloon dilation since it is an effective method in the treatment of gastric outlet obstruction, associated with relatively low rates of adverse events in the hands of experienced endoscopists [6].

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Conflicts of interest: None to declare.

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