Beyond the Ordinary: Gastric Colonization of *Sarcina Ventriculi* - Case Series Analysis

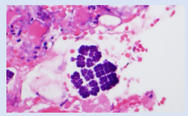
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Introduction

- ***Sarcina Ventriculi*** (SV), recently assigned to the genus Clostridium, is a gram-positive bacterium most often isolated from the **GI tract**.
- Associated with **delayed gastric emptying**.
- **Clinical presentation ranges from asymptomatic colonization to emphysematous gastritis with perforation**.
- Rare finding : 66 published cases worldwide in a 2022 literature review.

➢ **Four cases in our single center in the last year (2023).**

- Currently, there is no comprehensive treatment algorithm.



Objectives

To share **four cases** of gastric ***SV*** colonization with highly variable presentations, **in order to raise awareness among clinicians about the need to further our understanding and management of this clinical entity.**

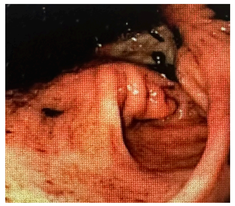
Methods

- **Retrospective analysis** of our endoscopic clinical database with a **prospective component in progress.**

Results

Patient 1 — 61-year-old male

Presented to the hospital with **melena** and **severe anemia 2nd to a gastric ulcer** due to chronic intake of NSAID. He arrived at the ER in hemorrhagic shock.
Initial **EGD** revealed a **Forrest IIb antral ulcer**, which was biopsied. Biopsy results were negative for pathogens or neoplasia.
Three months later, during a **follow-up EGD**, a **Forrest III** ulcer was still present, along with **extensive deformity** of the antrum and **food retention** in the stomach.
The microbiologist consultant initiated treatment with oral **ciprofloxacin** + **metronidazole** for **10 days**.
At the most recent follow-up EGD**, 20 months later**, **complete healing of the ulcer** was noted with residual antral scarring, significant food residues and **absence of *SV*** on the biopsies.



EGD at the initial presentation

Patient 2 — 49-year-old female

Consulted the bariatric service with the intention of undergoing weight-loss surgery for a BMI 55 with type II diabetes. She initially reported gastroesophageal reflux disease (**GERD**) well controlled with daily PPIs.
Preoperative EGD : mild antral gastritis, with ***SV*** at the routine antral biopsy results.
Initiation of oral **ciprofloxacin** + **metronidazole** for **10 days.**
Gastric emptying study revealed gastroparesis with 21% retention at 4 hours.
During a **follow-up EGD** five months later, 10 **gastric biopsies failed to identify residual *SV***.
The patient eventually underwent an uneventful **RYGB** with no post-operative complications.

Patient 3 — 52-year-old male

Consulted the bariatric service with the intention of undergoing weight-loss surgery as a renal transplant candidate in the context of a BMI 40 with severe insulin-dependent type II diabetes. No GERD or heartburn symptoms.
Preoperative EGD : Lots of food residue. ***SV*** noted on the routine gastric biopsies.
Initiation of oral **ciprofloxacin** + **metronidazole** for **15 days** by the surgeon.
During a follow-up EGD three months later, biopsies indicated **absence of *SV***.
The patient underwent an uneventful sleeve gastrectomy followed by a successful kidney transplant.
No ***SV*** organisms were identified in the sleeve surgical specimen.

Results

Patient 4 — 68-year-old female

Referred for a **large symptomatic paraesophageal hernia**.
Pre-op EGD with gastric biopsies were unremarkable besides the intra-thoracic stomach.
She underwent a **LSC paraesophageal hernia repair** using mesh and partial fundoplication. One month postoperatively, she developed obstructive symptoms.
EGD performed 2-months post-op revealed a normal hiatal anatomy with intra-gastric **food retention** and **presence of *SV*** on the gastric biopsies.
A **Gastric emptying study** revealed severe gastroparesis with 91% retention at 4 hours.
A **G-POEM** (Gastric Peroral Endoscopic Myotomy) was performed with **full symptomatic resolution**. Cultures intended to extract SV failed to isolate any organisms.

Conclusion

- These **four cases** effectively illustrate the **variability in the clinical presentation** of gastric ***SV*** colonization.
- **Gastric *SV* colonization seems to be associated with gastric emptying abnormalities.**
- **Further research** should explore:
  - Necessity of treating asymptomatic gastric ***SV*** colonization
  - Risk of recurrence following antibiotic treatment
  - Potential impact of SV colonization in patients undergoing bariatric and metabolic surgery

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