

# Efficacious Antibiotic treatment for Small Intestinal Bacterial Overgrowth and Refractory Gastroparesis secondary to Scleroderma

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## Background

- Systemic Sclerosis (SSc), also known as scleroderma, is an autoimmune disease that leads to chronic fibrosis of the skin, vasculature, and other organ systems.
- Over 90 percent of SSc patients experience gastrointestinal (GI) complications and GI manifestations are responsible for up to 10 percent of SSc-related deaths (3,4)
- Small intestinal bacterial overgrowth (SIBO) is a disease that causes GI symptoms because the composition of the gut microbiome is altered
- With systemic sclerosis, decreased gastric motility can precipitate SIBO.
- We present an interesting case of refractory nausea and vomiting requirement gastric stimulator, that was only relieved with antibiotic SIBO treatment.

## Clinical Presentation

The patient is a 46-year-old female with a past medical history of **Gastroparesis secondary to Scleroderma, Gastritis, Dyslipidemia, and multiple urinary tract infections** presenting to the emergency department with a chief complaint of abdominal pain.

Unable to tolerate PO intake, suffers from calorie malnutrition deficiency.

A gastric stimulator was placed 1 month before admission. However, she continued to experience symptoms of abdominal pain and distention.

When on Abx for UTIs, GI symptoms resolve.

## Imaging



### Impression:

Dilated Proximal Small bowel Loops

No definite transition point

Compressed Small bowel loops

Ileus vs/ Partial SBO

## Hospital Course

1. • Abdomen tense, unable to tolerate PO intake  
• Placed on NPO with D5 LR @ 50mL/Hr
2. • Attempt diet, patient unable to tolerate  
• H. Pylori Ruled out; debating starting gastric motility agents but refrained as QT interval was 412 seconds and Patient taking hydroxychloroquine
3. • Given History (improvement of GI symptoms with Antibiotics), started on amoxicillin/clavulanate potassium and Bowel Regimen
4. • The patient improved significantly clinically  
• DC'd to follow up with hematology to start Erythromycin and DC her Hydroxychloroquine

## Discussion

- The interesting nature of this case stem from the inclusion of both a primary, as well as a secondary, cause of intestinal dysmotility that occurs in many rheumatologic patients
- Recent studies have shown that the prevalence of **SIBO is around 39% in patients suffering from systemic sclerosis (3)**
- Patients who are likely to suffer from SIBO have correlative findings of low presence of antibodies against Topoisomerase I and increased scleroderma duration
- Studies show that around 57% of patients who received a gastric stimulator had a reduction in vomiting frequency 6 weeks following surgery (4)
- Unfortunately, the patient described experienced little to no reduction in her symptoms after stimulator placement. While gastric stimulator therapy failure may be one explanation, her history of symptom relief with antibiotics made SIBO an alternative explanation. Therefore, other causes of intestinal dysmotility were investigated.

## Conclusion

- This case serves to provide more insight into multifactorial intestinal dysmotility that can occur in systemic sclerosis; **providing Antibiotics that helps with SIBO (amoxicillin/clavulanate potassium) alleviated persistent Gastroparesis**
- While gastroparesis is a common finding, it is important to note that other disorders can compound given the pathophysiology of gastroparesis and small intestinal bacterial overgrowth.
- To improve this study, and to have more diagnostic accuracy: A gastric emptying study would have allowed for assessment of persistent gastroparesis or no change in gastric emptying after gastric stimulator placement and a hydrogen breath test would have allowed for confirmation of a diagnosis of SIBO.
- However, on a clinical basis, this patient who had not been able to eat for weeks was rapidly able to tolerate food and produced normal bowel movements; proving a successful medical outcome on the patient's quality of life.

## References

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