

INTRODUCTION

- Gastric electrical stimulators (GES) are long-term options for patients with gastroparesis refractory to pharmacotherapy and lifestyle changes [1].
- As GES use rises, recognizing device complications is crucial for managing patients with complex disease.
- This is a case in which the etiology of the patient's complication was discovered during endoscopy.

CASE PRESENTATION

- A 30-year-old female with gastroparesis related to type 1 diabetes mellitus and GES placement one year prior was admitted for electrical shock sensations, occurring eleven to twelve times a day.
- She felt these sensations near her stimulator site, with radiation to her left arm and neck.
- She reported mild abdominal distension and feeling as if her pacer moved. It was associated with nausea and vomiting. She denied fever, weight loss, chest pain, dyspnea, or other gastrointestinal symptoms.
- Her abdominal exam was soft with mild generalized tenderness, and the surgical scars from GES placement were well-healed. Device interrogation revealed settings at 2.5 volts, and impedance at 503 ohms.
- AP and lateral abdominal X-ray revealed proper lead placement (Figure 1). The decision was made to shut off the device, which resulted in complete cessation of the shock sensations.
- Upper endoscopy revealed linear, subepithelial mucosal protrusions along the greater curvature of the antrum, located approximately 9.5 cm and 10.5 cm from the pylorus, consistent with typical gastric stimulator lead placement (Figure 2).
- After surgical consultation, stimulator leads were replaced, and the patient was discharged without continued symptoms.

CLINICAL FINDINGS

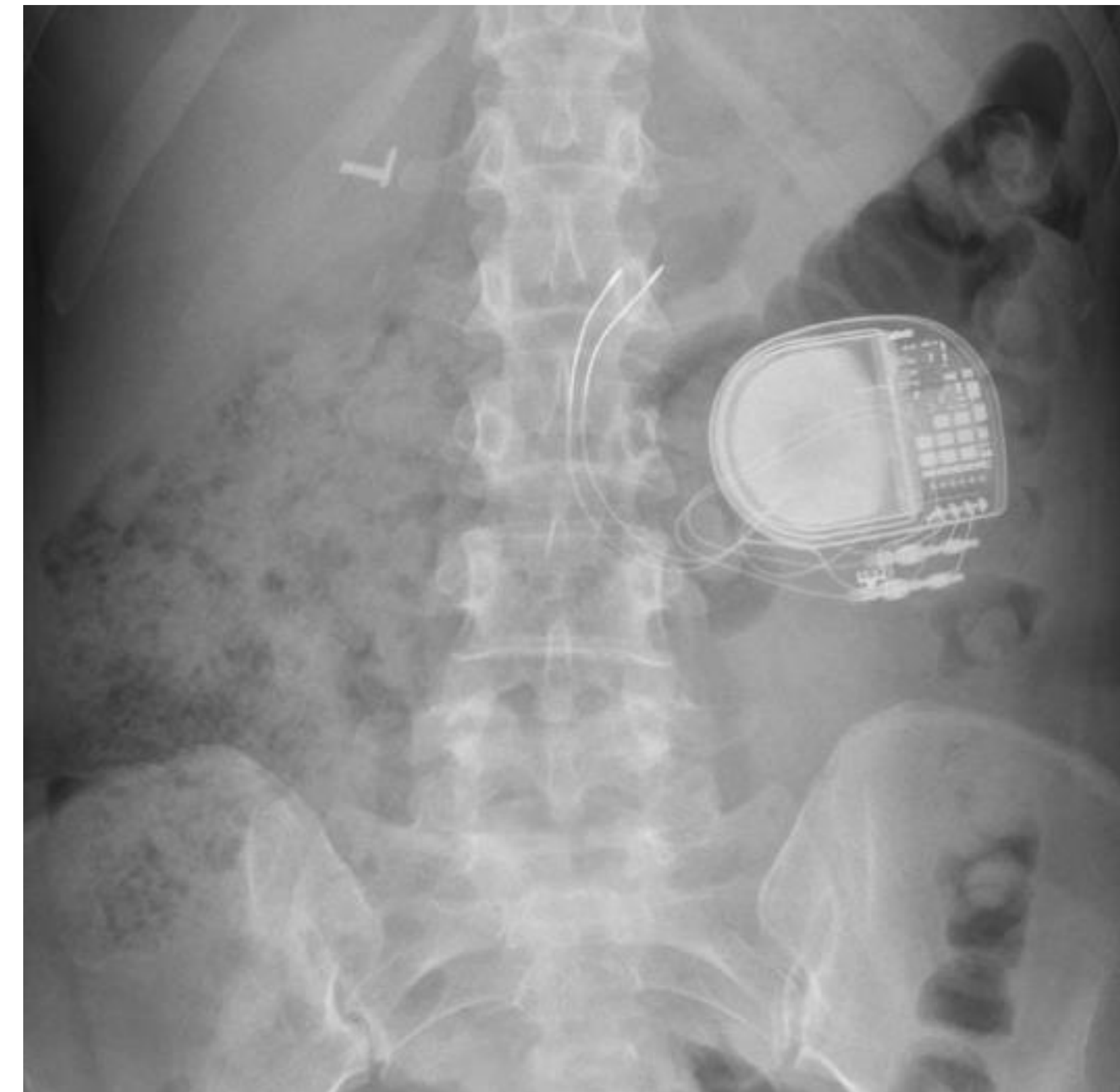


Figure 1. Gastric electrical stimulator lead placement as seen on upright KUB.



Figure 2. Gastric electrical stimulator leads with submucosal protrusion seen on EGD.

DISCUSSION

- Adverse effects related to GES use include disruption of lead placement, erosion in the submucosa or mucosa, and obstruction, with generator site infection as the most common issue [2][3].
- Diabetic patients have high risk of complications during long-term follow up [2].
- Studies have shown that lead penetration into the gastric lumen occurs in 3% of patients, with 16% of patients requiring another a corrective surgical procedure.
- This patient's presentation demonstrates a rare event after GES placement. Typically, leads are placed in the muscularis propria layer of the greater gastric curvature [1].
- Although the possibility exists of leads eroding the gastric lumen, and at times even the colonic wall [3], it usually occurs at an impedance greater than 800 ohms.
- Lead displacement can often be detected either on imaging or if impedance values are outside the normal range; however, neither of those occurred in this patient [2].

CONCLUSIONS

- Abnormal presentations demonstrated by patients with GES should be evaluated thoroughly, with suspicion for hardware malposition.
- Diagnostic work-up with endoscopy can guide further management.

Contact

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References

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