

Aeromonas hydrophila gastroenteritis presenting with profound watery diarrhea following esophagogastroduodenoscopy

Jane Ha, MD¹; Joseph Dailey, MD²; Raffi Karagozian, MD²¹Massachusetts General Hospital, Boston, MA, USA, ²Division of Gastroenterology and Hepatology, Tufts Medical Center, Boston, MA, USA

Introduction

- An inadequate reprocessing process, biofilm formation, or defects in the endoscope could lead to endoscopy-associated infections.
- Leading pathogens of such infections are *Klebsiella pneumoniae*, *Pseudomonas aeruginosa*, *Escherichia coli*, and *Salmonella enteritidis*.
- Here we report a rare case of *Aeromonas hydrophila* infection following an esophagogastroduodenoscopy (EGD) which manifested with cholera-like watery diarrhea.

Case presentation

Patient information

A 55-year-old female with a history of Roux-en-Y gastric bypass (RYGB) complicated by a marginal ulcer, gastroesophageal reflux disease, and type 2 diabetes mellitus

Chief complaint

Abdominal cramping, nausea, and profound watery diarrhea lasting for 10 days

Present illness

The patient had diarrhea 10-15 times a day, including incontinence overnight, was unable to tolerate an oral diet, and lost 5 kg during this time. One day before the onset of symptoms, the patient received an EGD for assessment of a known marginal ulcer at an outside institution which showed resolution of the ulcer. She denied any recent travel, exposure to freshwater, known sick contacts, or consumption of seafood or raw food.

Medication

Fluticasone, metformin, pantoprazole, atorvastatin, lidocaine, misoprostol, ondansetron, pregabalin, sucralfate

Review of system

Abdomen/gastrointestinal: **Positive for abdominal pain, nausea, diarrhea;** negative for vomiting, black/tarry stool, or rectal bleeding
Otherwise normal findings

Investigation & Clinical course

Vital signs

36.6°C; 107/65 mmHg; HR: 97/min; RR: 18/min; O₂ sat: 100%

Physical examination

Epigastric and left upper quadrant abdominal tenderness with a palpable mass in the left upper quadrant without peritoneal signs.

Differential diagnosis

1) Intussusception; 2) Gastroenteritis; 3) Drug-induced (misoprostol) diarrhea; 4) Drug-induced (pantoprazole/atorvastatin) microscopic colitis

Labs & Imaging

	HOD #1	HOD #2
Labs	Abnormal liver function test AST, 106 IU/L; ALT, 318 IU/L; ALP, 157 IU/L	Improved liver function test AST, 62 IU/L; ALT, 225 IU/L; ALP: 247 IU/L Stool PCR positive for <i>Aeromonas hydrophila</i>
Imaging	CT abdomen: possible intussusception at the jejunojejunal anastomosis	Upper GI series: negative for intussusception

Stool culture

Organism: *Aeromonas hydrophila*

Antibiotic susceptibility

Antibiotic	MIC	Interpretation
Piperacillin/tazobactam	≥128	Resistant
Cefoxitin	≤4	Sensitive
Ceftazidime	≤1	Sensitive
Meropenem	≥16	Resistant
Amikacin	≤2	Sensitive
Gentamicin	≤1	Sensitive
Ciprofloxacin	≤0.25	Sensitive
Trimethoprim/Sulfamethoxazole	≤20	Sensitive

Clinical course

Diarrhea and abdominal pain were significantly improved after symptomatic treatment with intravenous volume replacement and a 7-day course of ciprofloxacin administration for prolonged diarrhea. The liver function test was normalized.

Discussion

- Given symptoms consistent with acute gastroenteritis, positive stool culture, negative history of environmental exposure to a pathogen, and recent EGD, despite an unconfirmed source of infection, we hypothesize that the patient had an *Aeromonas hydrophila* infection most likely from a contaminated endoscope.
- The patient is suspected to have had several potential risk factors for *Aeromonas hydrophila* infection, including proton pump inhibitor use and possibly atypical microbiome following RYGB. *Aeromonas hydrophila* infection could be prevented by properly washing and drying the endoscope channel to remove biofilm.

References

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Contact

Jane Ha

Clinical and Translational Epidemiology Unit, Department of Medicine, Massachusetts General Hospital and Harvard Medical School, Boston, MA 02114

Email: jaha@mgh.harvard.edu; Twitter: @JaneHaMD; Phone: 978 429 1831