

An Unexpected Case of *C. Difficile* Infection

Laura Rodriguez MD, Cassandra Duarte, MD

University of Colorado, Department of Internal Medicine

Learning Objectives

- Recognize atypical presentations of *C. Difficile* infection
- Understand the role of surgery in *C. Difficile* infection

Background

- C. Difficile* infection (CDI) is one of the most common hospital-acquired infections
- Fulminant infection develops in approximately 3% to 5% of patients and about 30% of these patients do not respond to medical therapy and ultimately require surgery
- Early recognition of typical and atypical cases is pivotal, as well as early surgical consultation when indicated

Case Presentation

66-year-old male with history of hypertension, type II diabetes, chronic diarrhea, and recent hip fracture, requiring a stay at a rehab facility, presented after a fall due to generalized weakness.

On admission, his review of systems was otherwise unremarkable, and his abdominal exam was benign. Initial labs were notable for a mild leukocytosis and mild AKI, that improved with hydration. Interestingly, a trauma evaluation revealed an 11cm distended bowel loop. A follow up CT showed a nonobstructive volvulus, initially thought to be clinically insignificant.

On hospital day 6, routine morning labs revealed the development of diabetic ketoacidosis. An infectious workup was initiated, and he tested positive for *C. Difficile*. His clinical status deteriorated over the course of the day and despite maximal therapy with oral and rectal vancomycin and IV metronidazole, he had a continued pressor requirement, he developed toxic megacolon, and ultimately required surgical intervention for source control.

Outcomes

- Status post colectomy with end ileostomy
- Prolonged hospital stay (over 5 months), complicated by high ostomy output and recurring AKIs
- Has had 3 admissions since original discharge date, most recently due to renal failure from continued high ostomy output

Discussion

- In this case, the development of diabetic ketoacidosis was the first sign of CDI
- Other unusual presentations to consider include protein losing enteropathy, appendicitis, and small bowel enteritis
- Clinicians should have a high index of suspicion for CDI in hospitalized patients
- Timely surgical consultation in severe or complicated CDI is crucial and has been shown to improve outcomes

References

- McDonald, L. C., Gerding, D. N., Johnson, S., Bakken, J. S., Carroll, K. C., Coffin, S. E., ... & Wilcox, M. H. (2018). Clinical practice guidelines for *Clostridium difficile* infection in adults and children: 2017 update by the Infectious Diseases Society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA). *Clinical Infectious Diseases*, 66(7), e1-e48.
- Nwachuku, E., Shan, Y., Senthil-Kumar, P., Braun, T., Shadis, R., & Vu, T. Q. (2021). Toxic *Clostridioides* (formerly *Clostridium*) *difficile* colitis: No longer a diarrhea associated infection. *The American Journal of Surgery*, 221(1), 240-242.

Admission labs/imaging

7.9	234	138	116	40	AG: 10 VBG: 7.2 / 30 / 45 / 13.3 Lactate: 0.5
10.1	26.7	4.3	12	2.1	
407					

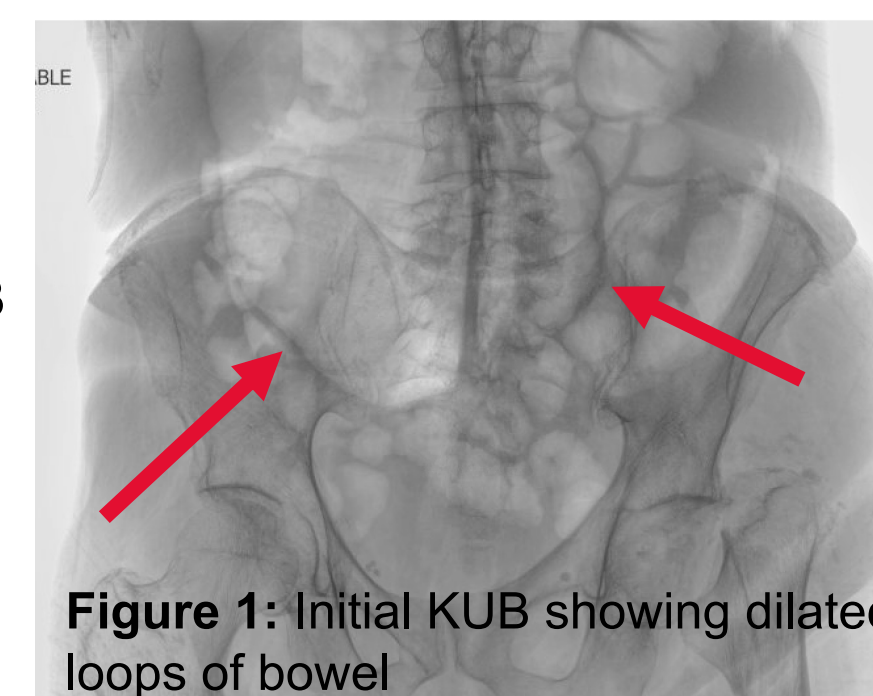


Figure 1: Initial KUB showing dilated loops of bowel

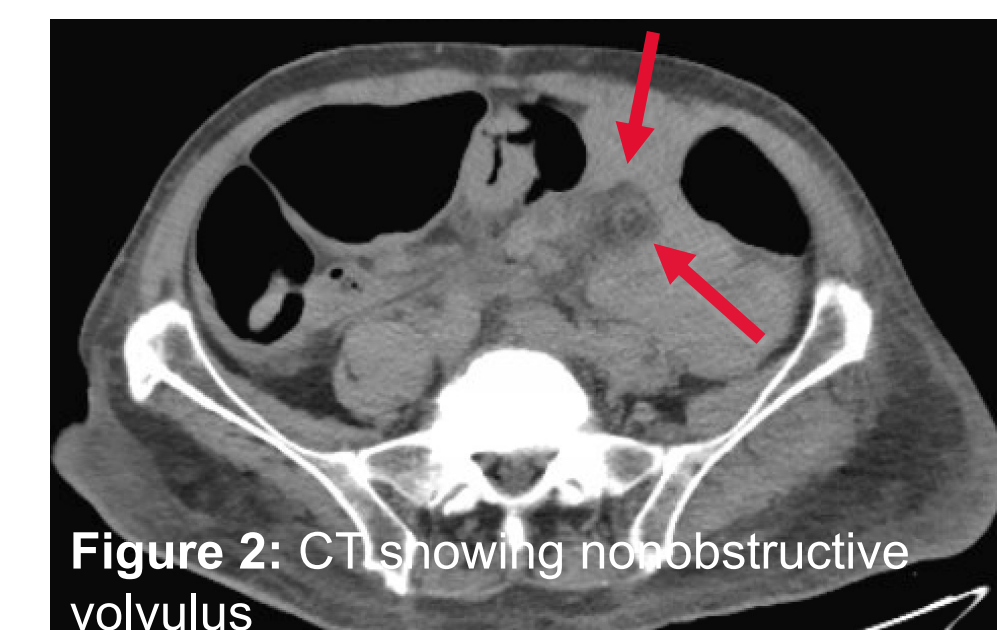


Figure 2: CT showing nonobstructive volvulus

Hospital day 2

8.2	230	142	119	30	AG: 8 VBG: 7.2 / 34 / 32 / 14.7
7	26.5	3.9	15	1.2	
100					

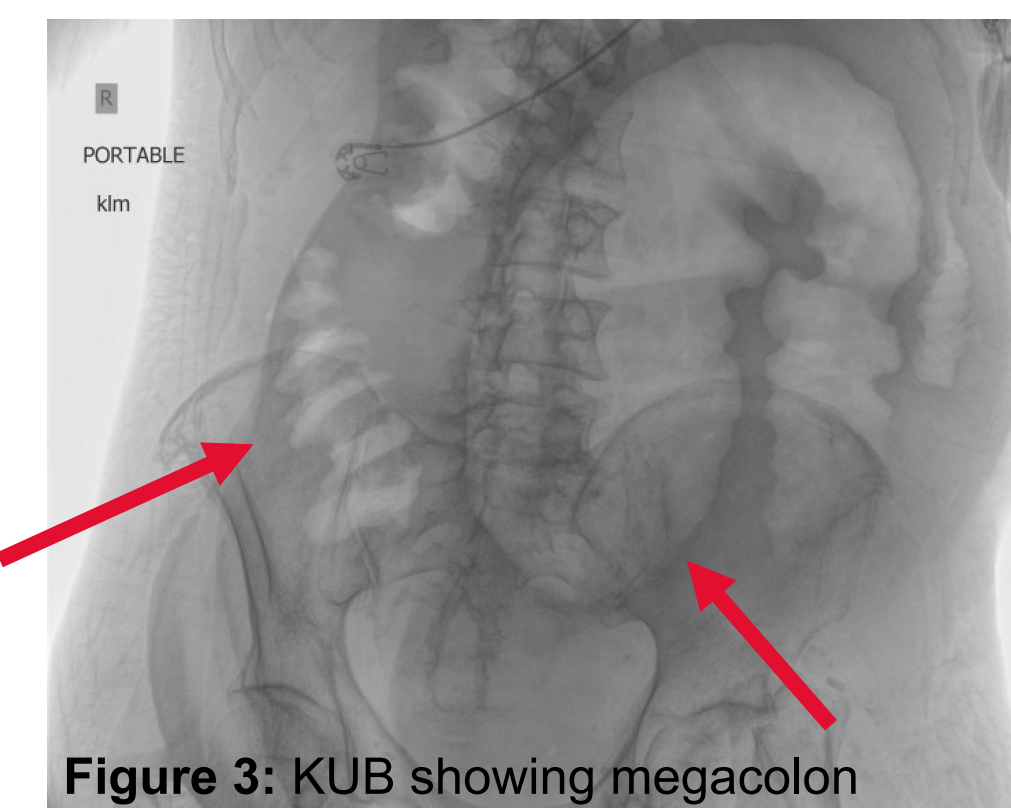


Figure 3: KUB showing megacolon

Hospital day 6

7.8	248	137	108	29	AG: 16 VBG: 7.2 / 26 / 56 / 14.8 Lactate: 3.0 C. Diff positive
15.8	24.5	3.9	13	1.5	
202					