

Background

- *Bacillus cereus* is a Gram positive rod that classically causes food poisoning via a plasmid-encoded toxin
- *B. cereus* intoxication is most commonly associated with fried rice that has sat under warming lamps for extended periods of time
- There is increasing recognition of *B. cereus* as a cause of frank disease in neutropenic hematologic malignancy patients
- Manifestations of *B. cereus* reported in this population include pneumonia, gastritis, hepatic abscesses, and meningoencephalitis [1-5]
- We report a case of neutropenic enterocolitis, also known as typhlitis, occurring in a neutropenic 74-year-old female with a recent diagnosis of acute myeloid leukemia (AML)

Discussion

- Typhlitis, also known as neutropenic enterocolitis or ileocecal syndrome, is the most common cause of fever and abdominal tenderness in the neutropenic patient [6]
- *Clostridium septicum* was historically regarded as the most common etiologic agent of typhlitis
- It is now known that the microbial etiology of typhlitis is diverse, with 84% and 16% of cases being caused by various bacteria and fungi, respectively [7]
- Our patient was found to have *B. cereus* typhlitis as confirmed clinically with abdominal CT correlation and stool culture
- Therapy with clindamycin led to a rapid clinical response
- We performed a literature review using PubMed and found a number of reports describing the manifestations of *B. cereus* in the hematologic malignancy patient
- **Table 1** summarizes the literature review findings

Case Presentation

- A 74-year-old female was referred to Moffitt Cancer Center (MCC) following a diagnosis of myelodysplastic syndrome (MDS)
- Repeat bone marrow biopsy showed 26% blasts and a formal diagnosis of AML was made
- “7 + 3” induction chemotherapy with cytarabine and daunorubicin plus sorafenib was initiated
- Antimicrobial prophylaxis with ciprofloxacin, acyclovir, and micafungin was initiated
- Watery diarrhea developed on neutropenia day 10. *Clostridium difficile* stool polymerase chain reaction (PCR) was negative
- Escalating doses of loperamide were given with no improvement
- On neutropenia day 13, a computed tomography (CT) scan was performed that showed cecal wall thickening with right paracolic gutter fluid collection
- Stool cultures the next day revealed absence of usual enteric flora with abundance of *B. cereus*
- Clindamycin 450 mg thrice daily was initiated
- Diarrhea and abdominal pain resolved over several days
- She was discharged after 30 total hospital days in stable condition with an absolute neutrophil count of 3.28 k/ μ L

REF NO	AGE/SEX	MALIGNANCY	INFECTION	CULTURE	DEFINITIVE THERAPY	SURVIVED
2	60/M	ALL	Pneumonia	IV Catheter Tip	CL, IM, VCN	Yes
3	26/M	AML	Meningoencephalitis / Intracranial Abscess	Blood; autopsy specimens	CFTD	No
4	37/F	AML	Necrotizing Gastritis	Blood, gastric biopsy	IM, VCN	Yes
5	22/M	AML	Colitis, sepsis,	Blood cultures, liver abscess	VCN, AMP	No
8	64/M	AML	Sepsis, necrotizing meningoencephalitis	Blood cultures, autopsy specimens	CFTXM, AMP	No

Table 1

M = Male; F = Female; ALL = Acute Lymphoblastic Leukemia; AML = Acute Myelogenous Leukemia; IV = Intravenous; CL = Clindamycin; IM = Imipenem; VCN = Vancomycin; CFTD = Ceftazidime; AMP = Ampicillin; CFTXM = Cefotaxime.

References

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