
A 66-year-old woman is evaluated in the emergency department with a 2-day history of fever and nonbloody diarrhea occurring several times a day. She recently completed a 10-day course of cephalexin for cellulitis of the leg.

On physical examination, temperature is 39.0 °C (102.2 °F), blood pressure is 98/60 mm Hg, pulse rate is 110/min, and respiration rate is 23/min. She appears uncomfortable but is not confused. Her abdomen is distended and bowel sounds are decreased. She has tenderness and abdominal guarding to palpation. Cellulitis has resolved.

| *Laboratory studies:* | |
|---|---|
| Leukocyte count | 30,000/μL (30 × $10^9$/L) (with 80% neutrophils, 15% band forms, and 5% lymphocytes) |
| Albumin | 2.5 mg/dL (25 g/L) |
| Creatinine | 2.5 mg/dL (221 μmol/L) (baseline 1.0 mg/dL [88.4 μmol/L]) |
| Lactate | 2.8 mEq/L (2.8 mmol/L) |

Stool polymerase chain reaction assay is positive for *Clostridium difficile* toxin gene. Abdominal imaging reveals evidence of toxic megacolon.

The patient is admitted to the ICU, and a surgical consultation is requested.

Which of the following is the most appropriate medical treatment?

A. Fecal microbiota transplant
B. Oral metronidazole
C. Oral vancomycin
D. Oral vancomycin and intravenous metronidazole
E. Oral vancomycin and oral metronidazole

# DISEASE SEVERITY

| Disease Severity | | Diagnostic Criteria |
|---|---|---|
| **Nonfulminant** | **Nonsevere** | WBC ≤ 15k and Cr < 1.5 |
| | **Severe** | WBC > 15k and Cr ≥ 1.5 |
| **Fulminant** | | Presence of any: Hypotension / Shock, Ileus, Toxic Megacolon |

# TREATMENT (2021 IDSA CDI Guideline Update)

| | | Initial episode | 1st recurrence | 2nd or subsequent recurrence |
|---|---|---|---|---|
| **Nonfulminant** | **Nonsevere** | **Fidaxomicin** > PO Vanc; Metronidazole is an alterative | Fidaxomicin > PO Vanc as standard dosing or extended-pulse regimen.<br><br>If prior CDI was w/in the last 6 months, adjunctive **Bezlotoxumab** | Fidaxomicin > PO Vanc as standard dosing or extended-pulse regimen.<br><br>If prior CDI was w/in the last 6 months, adjuctive **Bezlotoxumab**.<br><br>If current is 4th+ recurrence, favor FMT. |
| | **Severe** | **Fidaxomicin** > PO Vanc | | |
| **Fulminant** | | **PO Vancomycin**. If ileus, consider PR Vanc. **IV Metronidazole** should be given together with PO / PR Vanc (esp if ileus present). | | |


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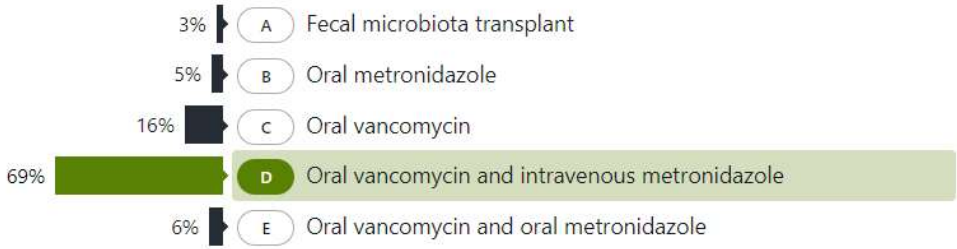
## Which of the following is the most appropriate medical treatment?



## CC: Rash

**HPI**: 38 year old woman.
- Hx refractory AML despite induction and consolidation chemo.
- Sent to ED by oncologist for leukocytosis (124k w/ 68% blasts), so hospitalized for relapsed AML.
- Received Mitoxantrone / Etoposide. Her last dose was ~1.5 weeks ago.
- Two days ago, Tmax 39.4C
- Today, new skin bump / rash on right forearm and right upper thigh w/ burning pain

- Other ROS negative

**PMH:**
- Refractory AML (dx 2019) s/p induction & consolidation chemo.

**SH:**
- Lives with kids.
- Marijuana. No tobacco, ETOH, or other drug use.

**INPATIENT MEDS:**
- Acetaminophen
- Acyclovir
- Allopurinol
- Cefepime
- Doxycycline
- Filgrastim
- Gabapentin
- Gliteritinib (antineoplastic)
- Melatonin
- Metronidazole
- Posaconazole

## PHYSICAL EXAM:

**Tmax:** 36.6C, **BP:** 125/85, **HR:** 88, **RR:** 18, **SpO2:** 100% on RA

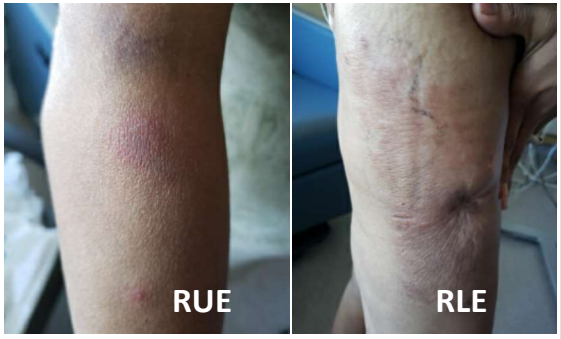
**General:** In NAD

**HEENT / CV / Pulm / GI / Neuro:** unremarkable

**Skin:**

RUE: annular, edematous plaque, central violaceous darkening, with distal isolated pink pustule

RLE: smooth violaceous thin plaques




## LABS:

| | | |
|---|---|---|
| | 8.6 | |
| 0.32 | | 9 |
| | 26.3 | |

| | | | |
|---|---|---|---|
| 138 | 104 | 7 | 95 |
| 3.9 | 23 | 0.5 | |

| | |
|---|---|
| 6.0 | 3.4 |
| 0.3 | <0.2 |
| 12 | 22 |
| 78 | |

Diff:
ANC <0.03
Eos: <0.03
No blasts reported

INR: 1.1
Fibrinogen: 713

Uric acid: 1.5
Cal: 8.3
Phos: 4.7
LD: 171

CRP: 26.1 (nml 0-0.5)
ESR: 136 (nml < 20)

Skin biopsy:
Gram stain & cx: neg
Anaerobic cx: neg
AFB: neg
Fungal: neg

Skin biopsy pathology:
Unremarkable epidermis. Superficial dermis w/ inflam infiltrate (lymphocytes, histiocytes, eosinophils). Dermal edema. Rare neutrophils, nuclear dust. No evidence of vasculitis.

## PROBLEM REPRESENTATION:

Young woman with refractory AML, admitted for relapse of AML, and developed new acute edematous, violaceous plaques in RUE and RLE, found to have…

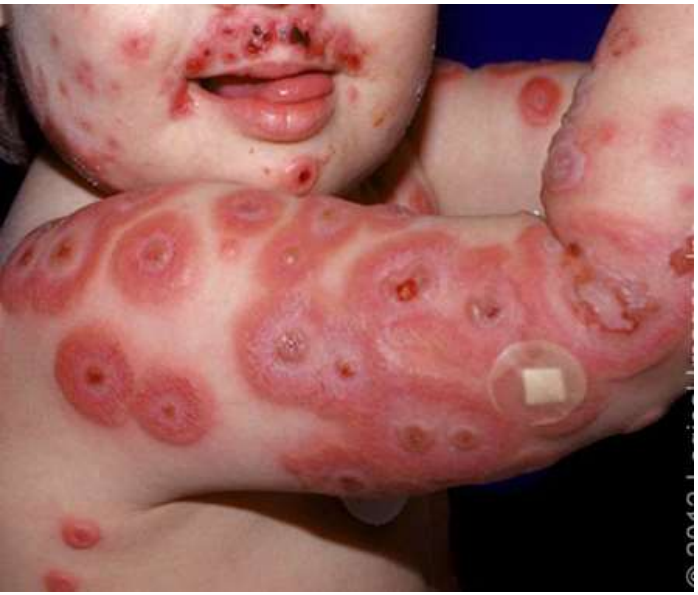
# SWEET SYNDROME

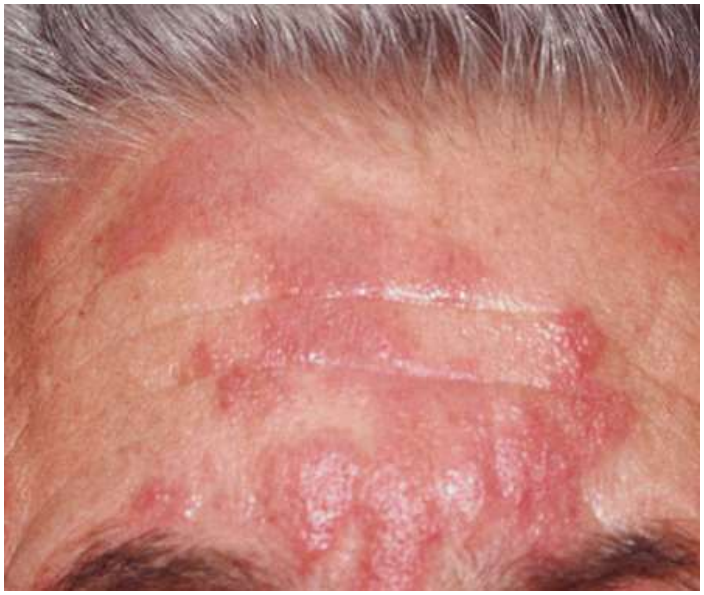
# DEFINITION

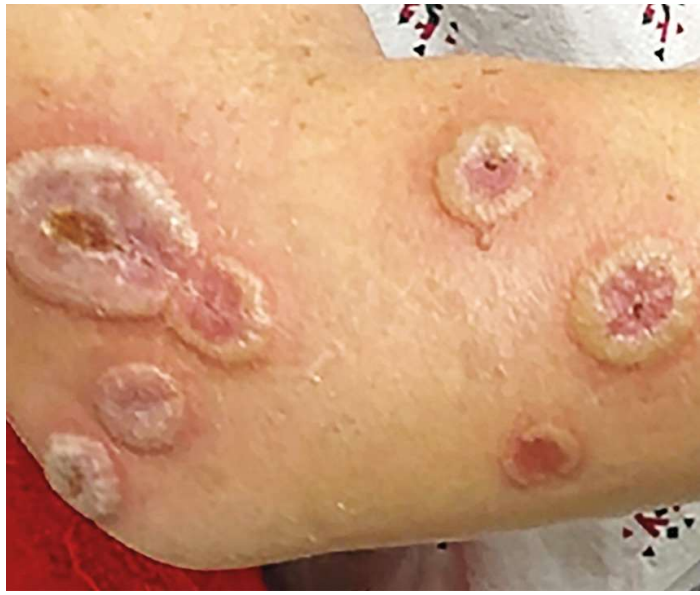
- **Acute febrile neutrophilic dermatosis**
- Rare inflammatory disorder
- **Abrupt** appearance of **painful, edematous "juicy", erythematous or violaceous**
  - Papules / plaques / nodules
- Often with fever and leukocytosis

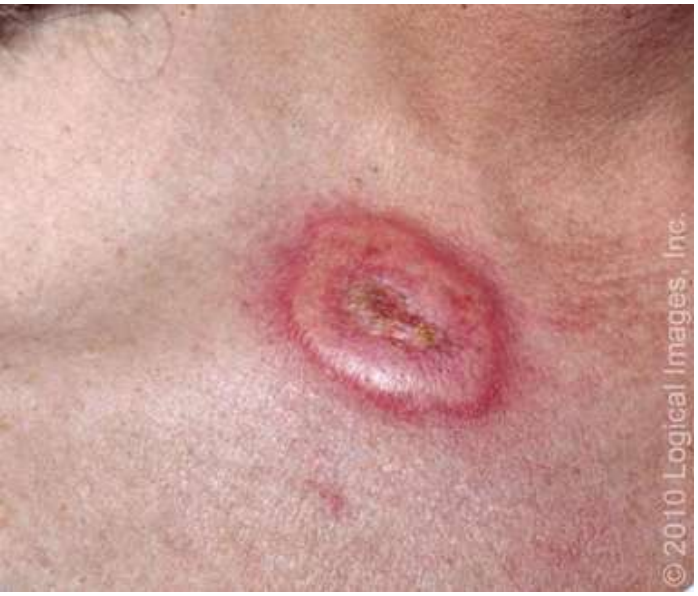
# TYPES

- **Classical / Idiopathic**
  - Infection
  - Inflammatory Bowel Disease
  - Pregnancy
- **Malignancy-associated**
  - AML (most associated)
- **Drug-induced**
  - Many, many drugs
  - G-CSF, Bactrim, Macrobid, AEDs, Hydralazine, Furosemide, Mirena, Anti-neoplastic agents





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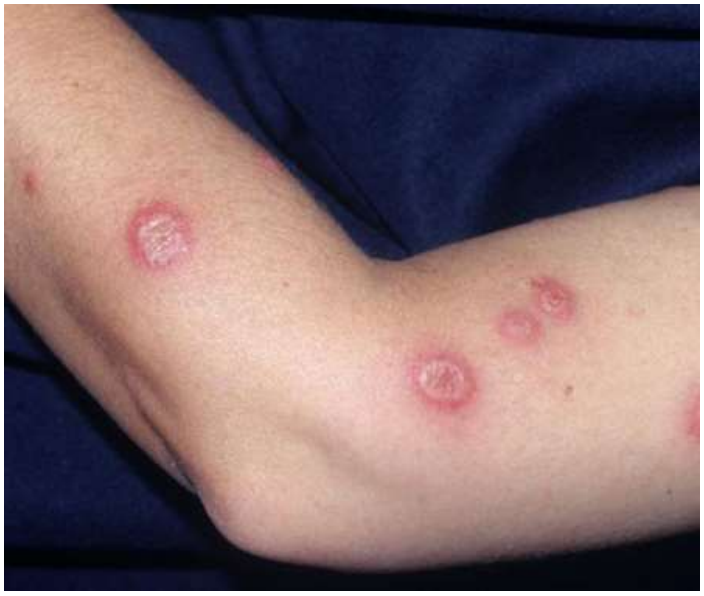

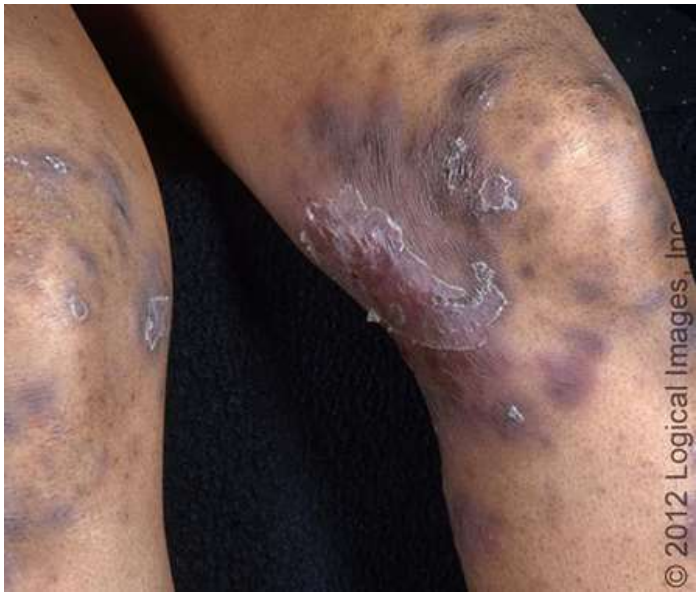
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# DIAGNOSIS - Classical

- Major
  - Abrupt onset of painful erythematous plaques or nodules
  - Histopathologic evidence of dense neutrophilic infiltrate without evidence of leukocytoclastic vasculitis
- Minor
  - Pyrexia > 38C
  - Assoc w/ an underlying malignancy, inflammatory disease, or pregnancy; or preceded by an upper resp / GI infection or vaccination
  - Excellent response to treatment with systemic corticosteroids or potassium iodide
  - Abnormal labs (3 out of the 4): ESR > 20, ↑ CRP, >8k leukocytes, >70% neutrophils

- 2 major + ≥2 minor

# TREATMENT

- Systemic glucocorticoids

- Alternatives
  - Topical and intralesional corticosteroids
  - Colchicine
  - Dapsone
  - Potassium iodide

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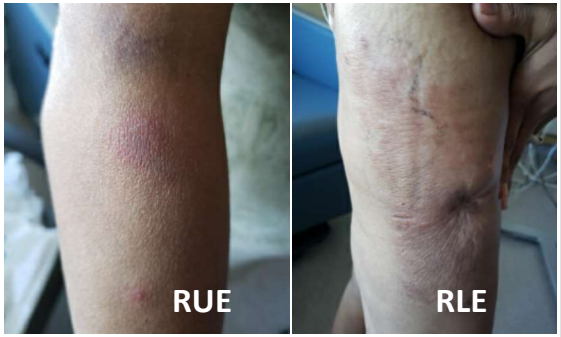


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**DIAGNOSIS: SWEET SYNDROME**

## LEARNING POINTS:

- Types
  - Idiopathic (classic): infection, IBD, pregnancy
  - Malignancy-associated
  - Drug-induced
- Clinical manifestations
  - Abrupt, painful, edematous "juicy," erythematous / violaceous
  - Papules / plaques / nodules
- Diagnosis
  - Clinical assessment
  - Biopsy
    - Edema in dermis, infiltration of neutrophils, absence of vasculitis
- Treatment
  - Systemic glucocorticoids
  - Alternatives
    - Colchicine
    - Dapsone
    - Potassium iodide