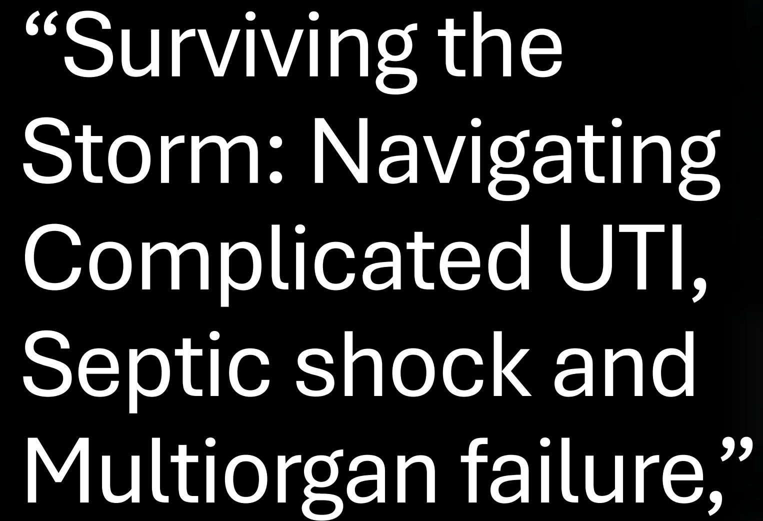

“Surviving the Storm: Navigating Complicated UTI, Septic shock and Multiorgan failure,”

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- 41-year-old male, No significant PMH
- 1-week history of nausea, vomiting, diarrhea, fatigue
- Unable to eat or drink over the past 3-4 days.
- Week ago - Urgent care – URI – Doxycycline = Symptoms

Review of Systems

Constitutional: Positive for fatigue and fever. Negative for chills and diaphoresis.

Respiratory: Negative for chest tightness and shortness of breath.

Cardiovascular: Negative for chest pain, palpitations and leg swelling.

Gastrointestinal: Positive for abdominal pain, nausea and vomiting. Negative for constipation and diarrhea.

Genitourinary: Negative for dysuria, frequency and urgency.

Musculoskeletal: Negative for back pain, neck pain and neck stiffness.

Neurological: Negative for dizziness, tremors, seizures, syncope, facial asymmetry, speech difficulty, light-headedness, numbness and headaches.

Psychiatric/Behavioral: Negative for agitation and behavioral problems

Physical Exam

General: He is not in acute distress. He is well-developed. He is not ill-appearing, toxic-appearing or diaphoretic.

HENT: Head: Normocephalic and atraumatic.

Cardiovascular: Rate and Rhythm: Normal rate and regular rhythm. No extrasystoles are present.

Pulmonary: No tachypnea, accessory muscle usage or respiratory distress. Normal breath sounds. No stridor. No decreased breath sounds, wheezing, rhonchi or rales.

Abdominal:

Palpations: Abdomen is soft. There is no mass.

Tenderness: There is abdominal tenderness **(Diffuse abdominal tenderness)**. There is no guarding or rebound.

Comments: **No abdominal rigidity or rebound tenderness noted**

Musculoskeletal:

Right/left lower leg: No tenderness. No edema.

Neurological:

General: No focal deficit present.

Mental Status: He is alert and oriented to person, place, and time.

ED Course

1421 **BP(!): 56/26**
IV fluids + Levophed
Vancomycin + Zosyn

1454 **Lactate(!!): 4.2**

1505 **Magnesium(!): 1.1** [CG]
1549 **BP(!): 87/40** [CG]
1600 **Creatinine(!): 8.25** [CG]
1601 **BUN(!): 92** [CG]
1601 **Alkaline Phosphatase(!): 177** [CG]
1601 **ALT(!): 535** [CG]
1601 **AST(!): 3,840** [CG]
1601 **Bilirubin, Total(!): 1.2** [CG]
1656 **BP: 103/40** [CG]

1715 **AMMONIA(!): 81** [CG]
1732 **pH(!!): 7.16** [CG]

Hb – 9.1 ← 12.2

Platelets – 79 ← 162

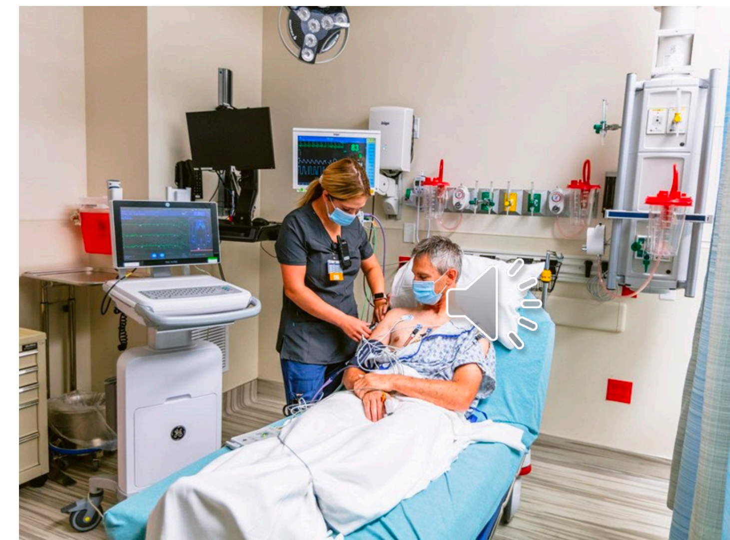
CXR – No infiltrates

CT Chest, Abdomen, Pelvis – No acute findings

Central line placed

Admission to ICU - DDX

- **Septic shock – Unknown source**
- **Acute renal failure**
- **Acute liver failure**
- **Anemia**
- **Thrombocytopenia**



Hospitalist

- IVF
- Antibiotics – Meropenem empirically
- 3 pressors - norepinephrine, vasopressin, phenylephrine
- Stress dose steroids
- UA consistent with UTI → Culture
- CBC: Thrombocytopenia – Monitor – On Prophylactic lovenox
- h/o alcohol – Monitor CIWA – Rx PRN
- Critical care, Nephrology, Infectious disease consulted

Critical care

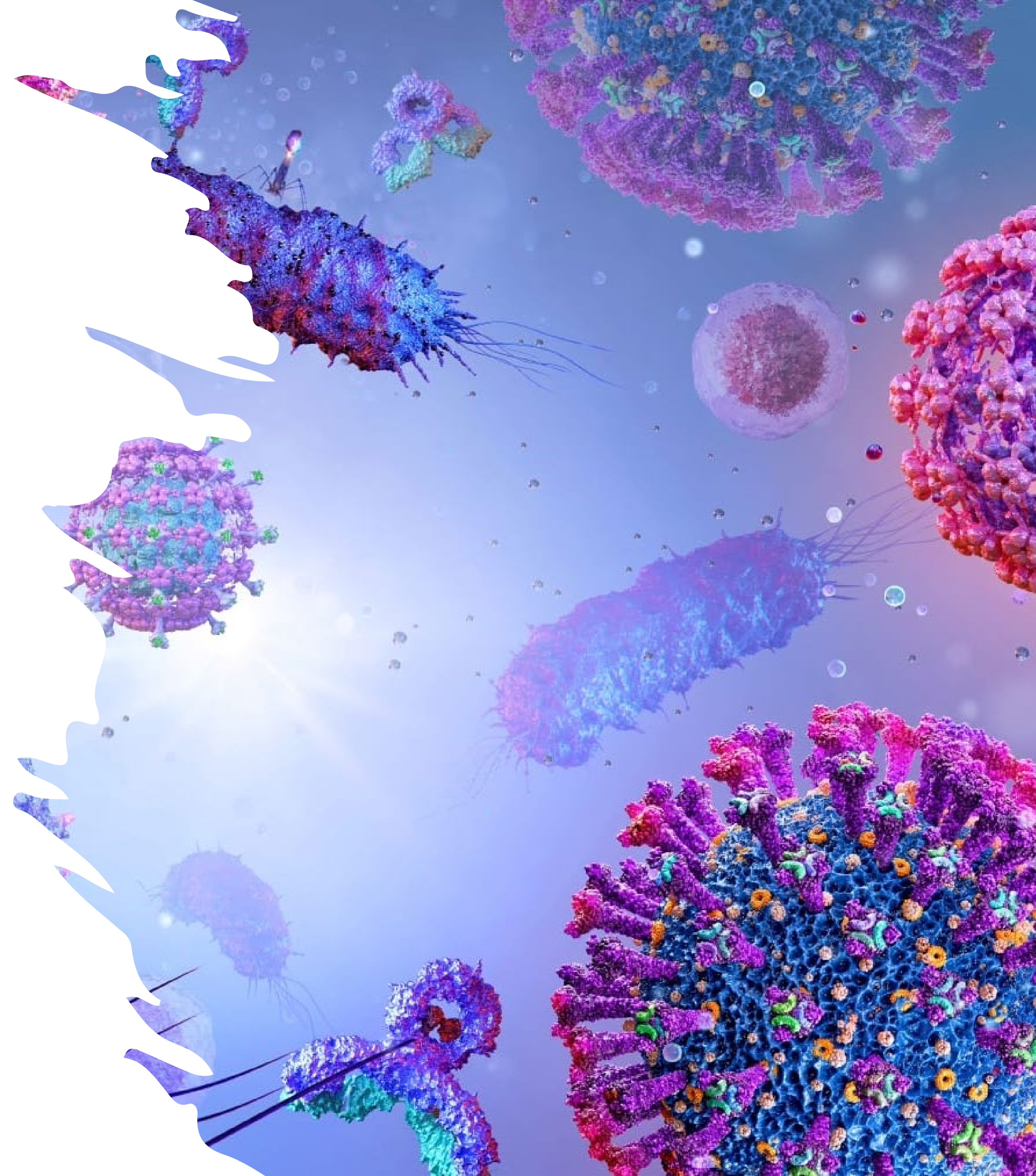
- ABG: Metabolic acidosis / Lactic acidosis
- Anemia worsen – Hb 12 → 9.1 → 8.5
- Thrombocytopenia worsen - 79 → 65
- Creatinine improved - 8.2 → 7.7
- Elevated lipase – Source Pancreatitis?
- Trend lactate – Source UTI vs Pancreatitis
- Continue Meropenem, check cultures
- Continue IVF, Pressors MAP > 65
- Arterial line placed

Nephrology

- Acute kidney injury in the setting of shock/ hypotension.
- Urinary source suspected
- Continue IVF
- Renal ultrasound → No acute findings
- Dialysis ordered
- Platelets 79 → 45 - ?TTP - DIC screen, Haptoglobin, LDH and Adams TS13 - Negative
- Pathologist review of Peripheral smear – No schistocytes
- Hem/Onc consult for thrombocytopenia
- Urology consult for recurrent UTIs

Infectious disease

- No clear source of infection on CT abdomen/pelvis or on CXR
- Continue meropenem
- If continues to have diarrhea will check C diff given recent antibiotics exposure.
- Follow-up temperatures, CMP, CBC with diff, culture results, vancomycin trough
- Follow up blood culture and urine culture
- Abnormal UA, with culture positive for Enterococcus faecalis → UTI



Hematology/Oncology

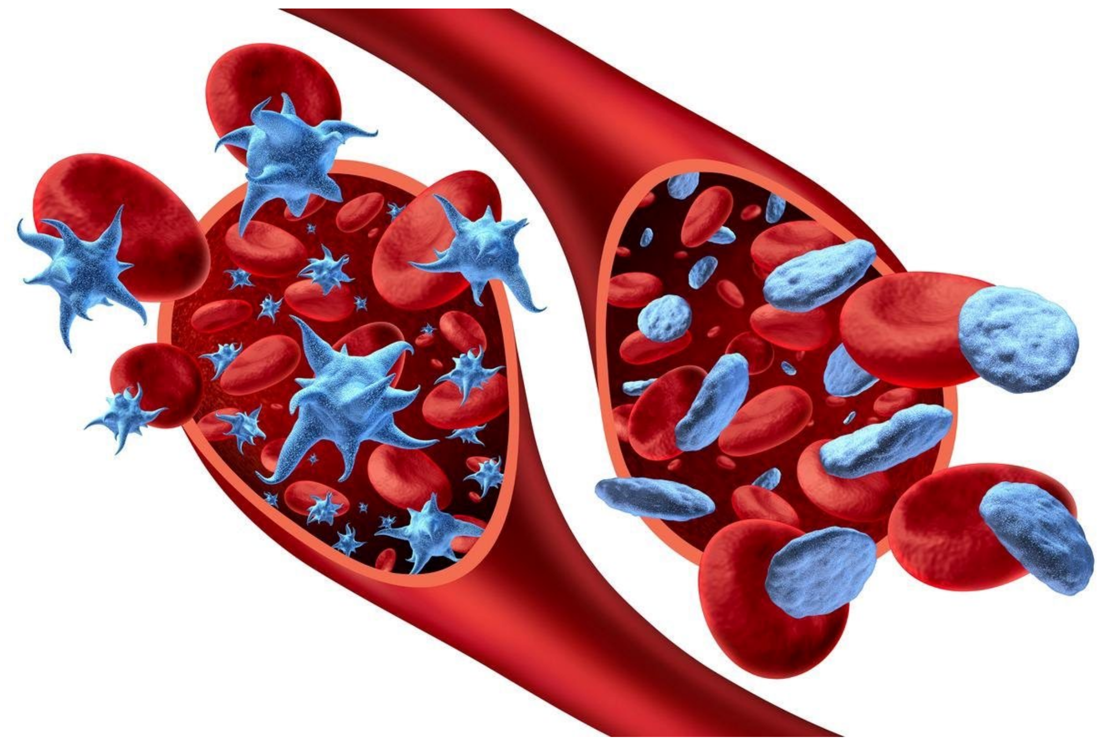
1) Thrombocytopenia

- No evidence of hemolysis, LDH trending down (a marker of inflammation, most likely elevated due to multiorgan failure)
- Low reticulocytes, Negative Coomb's test
- Haptoglobin - Normal
- Peripheral blood smear – No schistocytes
- Bilirubin is mostly direct goes against hemolysis
- Nausea, vomiting, diarrhea and AKI – HUS/TTP
- Shiga toxin negative, ADAMTS 13 negative
- Unlikely HIT (HIT ab low), SSRA assay negative
- Thrombocytopenia is **Multifactorial-** most likely due to liver failure, sepsis and antibiotics.

2) Anemia - Anemia of inflammation due to multiorgan failure

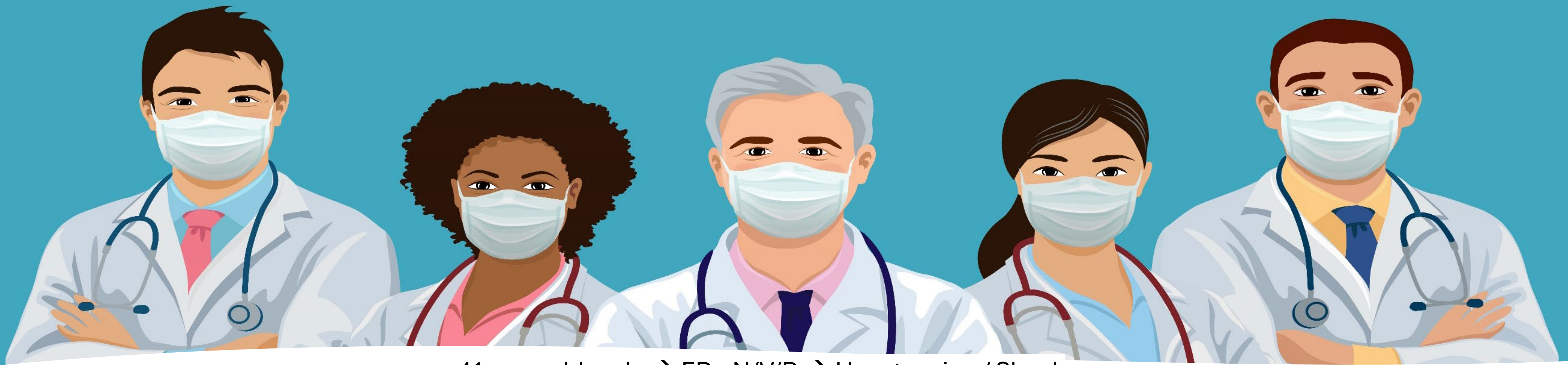
3) Macrocytosis - Likely due to liver failure

4) Coagulopathy - Likely due to liver failure vs DIC in the setting of multiorgan failure and sepsis



Critical care

- Hemodynamically stable, weaned from all pressors
- Lactic acidosis – resolved
- Septic shock most likely due to UTI– resolved
- AKI – on dialysis, FU with Nephrology
- Liver enzymes trending down
- Acute anemia & thrombocytopenia in setting of acute liver injury, sepsis
- Stable – Transfer to floor



Hospital Course

- 41-year-old male → ED - N/V/D → Hypotension / Shock
- Suspected to be septic and requiring IVF, empiric broad spectrum antibiotics, multiple vasopressors
- Admitted to ICU – S/B Critical care
- AKI - Creatinine is 7.74, – S/B Nephrology – Dialysis
- No fever, No leukocytosis, No obvious source of infection on CT chest/abdomen/pelvis - S/B ID
- UA – UTI, Urine culture - Enterococcus, Blood culture - Negative
- ALI – Shock liver - Elevated liver enzymes - Improved
- Anemia, thrombocytopenia – S/B HemOnc
- Extensive work up negative – most likely due to sepsis - Improved
- Patient condition improved overall on treatment by multiple specialties
- Patient discharged home with OP Dialysis

Take Home Message: UTI in males is considered complicated and can lead to septic shock and multi-organ failure, necessitating prompt and comprehensive medical intervention.