YOUNG SICK SPLENECTOMIZED WOMAN

Evgeni Kontrient

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04:20

On admission

- 32 y old woman, married + 3 walks in the ED
- Main Complaint: Diarrhea, Vomiting, Fever – 2 hours
- No other complains (no SOB, no abdominal pain, no dysuria)

- T=38°C, BP 95/33 mm/hg, pulse 122 BPM

- Presumptive Diagnosis:
  - Acute Gastroenteritis
  - Dehydration

- Bloods drawn: CBC, Electrolytes, Kidney + Liver Function Test
- Hypotonic fluids and antipyretics administrated

04:45

Medical History and Physical Examination

- B-Thallassemia Intermedia
- 3 normal uncomplicated pregnancies
- Splenectomy – age 12. Immunizations?
- S/P Cholecystectomy, S/P Rheumatic Fever
- Medications – Clomiphene Citrate – 2 days
- No sick contacts

- Alert and oriented. Looks ill. No skin rash.
- Clear lungs
- Soft nontender abdomen, no hepatomegaly
- Fast but regular heart sounds, no murmurs
- No meningeal signs

05:00

-Ill looking

-splenectomized

-hypotensive

-tachycardic patient with

-fever

After 1000 cc – BP 76/37, HR 128

-is it just AGE?

This patient is probably very sick!

Septic Shock suspected

- ***Ceftriaxone + Ciprofloxacin*** administered
- Saline 2000 cc via two 18G IV lines

🕔 **05:30**

Further immediate investigation:

- Urinary Catheter – minimal urine, positive NIT,LEU,PRO,ERY
- Chest X-ray – Clear, ECG – Sinus Tachycardia
- ABG, Coagulation studies performed - pending
- Other Labs – pending

- 🕔 **05:45** ***ICU bed requested***

What is the Diagnosis?

- What we know so far:

- Sudden onset of **fever, diarrhea, vomiting**
- **NO**: Abdominal pain/Dysuria/SOB/Rash/Headache
- S/P Splenectomy. S/P Rheumatic fever.
- Clomiphene Citrate – 2 days
- "Positive" urine

- 🕓 **06:00** No response to fluid resuscitation

What is the Diagnosis?

What is the Diagnosis???

-Severe Dysentery?
-Rapidly progressive Meningococcal Infection?
-Urosepsis?
-Infected/Ruptured Ovarian cyst (Clomiphene)?
-Other abdominal catastrophe?
-Sepsis due to Infective Endocarditis?
(history of RF)

- 06:30 BP 120/42. No urinary output.

06:45

Laboratory Results + US

- Severe Metabolic Acidosis
- Leukocytosis, Low HB (expected due to Thalassemia)
- Elevated CR, LFT, Bili, LDH
- Normal Na, K
- Acute Renal Failure

-PH=7.245, PCO2=35.7mmHg, HCO3 = 15 mmol/L (22-24)
-WBC=12900/µL, Hb=7.7g/dL, PLT=640000/µL
-normal Na,K; Cr=0.94mg/dL (her basic 0.4 mg/dl)

-Abdominal US – Ascites
-Surgery consult requested

🕖07:30 Meanwhile…

- ICU – no available bed, arranging a bed

- Patient is confused, tachypneic. Very sick.
- Lab – blood doesn't clot. PH=6.9. Lactate =14.7 mmol/L (0.5-2.2). Develops ***DIC***. Gets PC,FFP.
- Patient deteriorates and is intubated. Noradrenaline started.
- Surgeons – soft abdomen! Why ascites? Request CT.

- 🕖**08:30** Patient isn’t stable but rushed to CT.

🕗08:45

CT scan

- CT scan – no perforation seen
- Lungs - small low bilateral infiltrates
- Enlarged edematous pancreas but no necrosis
- Collapsed IVC
- No perforation but thickened jejunal wall
- Bilateral hypodense lesions in both kidneys

- **<u>Conclusion</u>: lung infiltrates, bilateral kidney lesions and picture of abdominal response with ascites**

What is the next step?

🕓09:40

Laparotomy

- Patients deteriorates
- Abdominal response on CT
- **Quick session (surgery, ED, ID, ICU) - decision to perform laparotomy**

- Patient is rushed to Operating Room
- ***<u>No</u> abdominal findings except ascites***

Resolution

🕚11:00

Dies in the ICU

Diagnosis

- Blood, urine and peritoneal fluid cultures reveal the diagnosis.

Diagnosis - Urosepsis

- Urine and Blood **– E.Coli** sensitive to all antibiotics
- Peritoneal Fluid – no growth

Conclusion – Sepsis due to UTI

OPSI

Overwhelming Post-Splenectomy Infection

- Lifetime Risk 5%
- Encapsulated Bacteria (??)
- Mortality 40-70% **with** treatment

Sepsis in Asplenic patient

- Highest risk – in infancy, first three years. Up to 20y reported.
- Pathogens – encapsulated organisms – **Pneumococcus, N.Meningitidis, H.Influenza, K.Pneumoniae, GBS**
- *Can develop suddenly without specific complains*
- Do not delay AB for diagnosis (LP etc.)
- Empiric Tx (no controlled trials)
  - IV Ceftriaxone 2gr (Levofloxacin 750 mg) x 1/d **PLUS**
  - IV Vancomycin 1gr x 1/d (resistant Pneumococcus)

E. Coli in Splenectomized Patient?

Scand J. Infectious Disease 32: 2000

Risk and Patterns of Bacteraemia After Splenectomy: a Population-Based Study

Aarhus University Hospital, Aarhus , Denmark

- 538 patients, F/U 1731 person-years
- 60% were vaccinated against Pneumococcus
- 38 Bacteremias
- Risk – 2.3 for every 100 patient-years after splenectomy
- **45% due to Enterobacteria, 30% E.Coli**

E. Coli in Splenectomized Patient?

Infection. 2011 Aug 25

Clinical spectrum of serious bacterial infection among splenectomized patients with hemoglobinopathies

Ha'Emek Medical Center, Afula, Israel

- 22 episodes of serious bacterial infections in 19 patients among 54
- Most frequent: E.Coli (8), S.Pneumoniae (5), and Campylobacter (2)
- 6 patients died

Key points – sick asplenic patient

- Symptoms lie in asplenic patient
- Sick splenectomized patient – PANIC!
- Not only encapsulated bacteria
- Request Infectious Disease consultant
- Expected rapid deterioration