A CASE OF…….

Matthew L. Macer, MD
Postgraduate Year 3
Yale University School of Medicine - Yale New Haven Hospital

Yale SCHOOL OF MEDICINE

HISTORY OF PRESENT ILLNESS

- A 66 year old AA G6 P4023 with recently diagnosed Endometrial carcinoma presented in normal state of health to her scheduled robotic-assisted TLH/BSO/lymph node dissection. Only complaints were fatigue and "chills", no fevers. She had taken no home medication on day of surgery.

PAST HISTORY

- Past Medical History
  - Endometrial Carcinoma (F1N2), HTN, DM II, Post-menopausal bleeding and anemia requiring 2unit PRBC transfusion 1/2013, Spinal Stenosis, Obesity
- Past Surgical History- Uncomplicated
  - Dilation and curettage 2/2013, Laminectomy and L-Spine Fusion 1/2013, Bilateral tubal ligation,
- Past Obstetric History
  - SVD x 4, SAB x 2
- Past Gynecologic History
  - Menopause at 50 years old; No h/o Abnl. Pap; failed endometrial biopsy 12/2012 secondary to cervical stenosis
  - No h/o malignancies in family or self

PAST HISTORY

- Medications
  - Amlodipine 10mg qday, Lisinopril 40mg qday, Aspirin, 81mg qday, chlorthiadone 25mg qday, Metformin 1000mg BID
- Allergies
  - NKDA
- Past Social History
  - Lives in Connecticut at senior living, no recent travel, widowed, retired
  - Denies drug/alcohol/tobacco use

EXAM

- **PE**
  - **T:** 97.5F **BP:** 149/81 **P:** 114 **RR:** 18 **O2:** 98% **BMI:** 42 kg/m^2
  - **GENERAL:** NAD
  - **PULM:** CTAB, no wheezes, rales, or rhonchi
  - **CV:** RRR, no murmurs, rubs
  - **ABD:** Normoactive Bowel Sounds, Non-tender, No masses palpated
  - **Extremities:** no edema/calf tenderness b/l
- **Pertinent Laboratory data**
  - **Hct:** 32%
  - **Plt:** 345 x1000/uL
  - **WBC:** 5.6 x 1000/uL

OPERATIVE COURSE

- Intubated without complication- General Anesthesia
- Prior to robotic port placement and docking
  - Acute temperature elevation: 39.7 deg C (103.5 deg F)
  - BP: 172/71 HR: 110bpm RR: 14breaths/min on ventilator
  - No muscle rigidity
  - Intra-op ABG: No hypercarbia or acidosis
- Procedure Stopped
  - Packed with ice, transferred to MICU, remained intubated

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QUESTIONS ?

DIFFERENTIAL DIAGNOSIS?

DIFFERENTIAL DIAGNOSIS

- Drug Induced Malignant Hyperthermia
  - Anesthesia with Sevoflurane
- Sepsis
- Allergic Reaction
- Delayed Transfusion Reaction

MICU COURSE

- Postoperative Day 0:
  - Responsive to verbal commands, intubated
  - T: 100.9 deg F with cooling measures; BP: 200/107, HR: 111bpm, RR:12 (vent), O2sat: 100%
  - Exam: Lungs clear with good perfusion, tachycardic, no peripheral edema or rash
  - CXR: Negative
  - Labs: WBC: 6.7% with monocytosis (10%→22%), H/H: 8.4/25.4%,Plt: 113x1000/uL, BMP: WNL
  - ABG: No Hypercarbia or Acidosis

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WHAT ARE OUR NEXT STEPS?

WHAT EXAMS DO WE WANT PERFORMED?

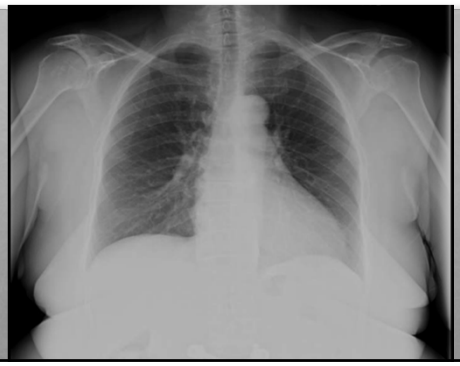
MANAGEMENT

- Arterial Line Placed
- Infectious Disease Consulted
  - Temperature: 100.6 with anti-pyretics and
- IV Hydration for Tachycardia and IV Esmolol for hypertension
  - BP 147/90, HR: 101bpm
- Extubated to cold-stream mask

LABORATORY DATA

- Hemolysis Panel
  - LDH: 543 U/L (High), Haptoglobin:<10 mg/dL (Low), Reticulocyte count: 7.9% (High), Bilirubins: Normal
- DIC Laboratory values
  - D-Dimer: 1.90 (High), Fibrinogen: 435 (High), PT/PTT/INR: WNL
- Myolysis Laboratory Values
  - CK: 64 U/L (Normal), CKMB: 1.4 ng/mL (Normal), Myoglobin: 28 (Normal)
- Infectious Disease
  - Urine Culture: No Growth
  - Blood Culture: No growth
  - DFA: Negative

CHEST X-RAY



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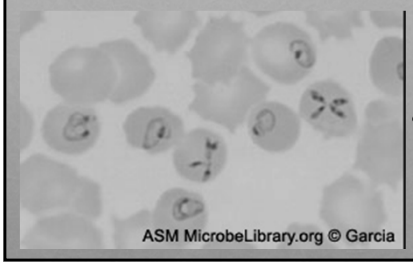
What do we think is happening here?!

MICU COURSE

- Peripheral Smear
  - RBC inclusions



"Maltese Cross"

MICU COURSE

- Hypertension
  - Decreased into baseline 140/90's with administration of home anti-hypertensives
- ID
  - Started on Azithromycin and Atovaquone
  - Defervesed within 24 hours
  - Transferred to medicine floor

POST-ICU

- Vitals: Afebrile, WNL
- Laboratory Values
  - WBC: 5.1 x 1000 U/L with 15% monocytes, H/H: 7.9/23.7%, PLT: 209 x 1000 U/L
- Patient discharged on Post-ICU day 2 in stable condition, afebrile, and without complaints
- Completed 10 days of treatment with Azithromycin and Atovaquone
- Returned for surgery 4/5/2013 which was performed without complication
  - Endometrioid Adenocarcinoma Stage Ia
  - Current undergoing oncologic treatment and recovering well

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AND THE DIAGNOSIS IS… (REMEMBER YOUR INFECTIOUS DISEASE?)

BABESIOSIS SEPSIS

- How did she become infected?
  - Transfusion related Babesiosis
    - Confirmed by blood donor B. Microti antibody
    - Rare for tick-vector transmission in winter

TRANSFUSION RELATED INFECTIONS

- Transfusion related infections
  - Bacterial (Tranfusion transmitted bacterial infection-TTBI)
    - Contamination (donor blood, donor skin, phlebotomist, containers)
    - Risk of sepsis from TTBI:
      - Platelet transfusion: 1:50,000 units PRBC: 1:500,000 units
  - Viral
    - HIV, Hepatitis, West Nile, CMV, HTLV
      - Risk of HIV: 1:1.4 million units
      - Risk of Hepatitis C: 1:2 million units
  - Other
    - Babesiosis, Chagas, Syphilis
  - Current Donor Screening for:
    - All of above except Babesia

BABESIOSIS

- Babesia (2100 cases in last decade)
  - Protozoa: Babesia Microti (most common in NE) or Divergens
  - Tick vector in NE: White tailed deer tick- Ixodes Scapularis
  - Most common in Northeast- Late Spring and Early Summer
  - Co-Infection common with Lyme Disease
  - Manifestations:
    - Mild: Fevers (as high as 105.0 deg F), fatigue, myalgias
    - Severe: Hemolysis, ARDS, DIC, CHF, Liver or Renal Failure
  - Diagnosis:
    - Microscopy showing parasite: round/oval, blue cytoplasm with red chromatic dots; Maltese Cross- Pathognemonic
    - PCR
  - Treatment: atovaquone plus azithromycin or quinine plus clindamycin for 7-10 days

TRANSFUSION RELATED BABESIOSIS

- Incidence
  - In US: 1: 1.1 million units
  - In Connecticut: 1:60,000 units In Rhode Island: 1:15,000 units
- May be diagnosed any time (asymptomatic infection can last >1 year)
- Most cases involve PRBC and are associated with operations
  - May survive as long as 42 days
- Median age of patients affected is 65 years old and median time from transfusion to symptoms: 37 days (range 11-176 days)
- Median time to diagnosis: 6 days
- Mortality: 20% of cases
- Cases: Reportable to CDC
- No screening in place; Only Connecticut has demonstrated reduced cases by deferral of seropositive donors

CONCLUSION

- With our Ob/Gyn patient population who frequently require RBC transfusions, it is important to remember that they do not come without risk
- In the Northeast, the risk of acquiring babesiosis from transfusions increases more than 10-fold
- In a patient in the Northeast with a recent history of a PRBC transfusion who develops signs of sepsis and hemolysis, babesiosis should always be included on the differential and has a high mortality rate.

INTERESTING FACT TO GO

- Transplacental transmission
  - Six cases of congenital infection with B. microti have been reported in the United States
- More research is needed to determine the most cost affective screening method in Endemic areas such as the Northeast

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FINAL QUESTIONS?

THANK YOU!

REFERENCES

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