EMERGING SERIOUS INFECTION

Abuzaid Medani MD  PGY4 Med/Peds  Dr. Ateeq Rehman MD; FACP

Marshfield Clinic Health System
Disclosure

I have no actual or potential conflict of interest in relation to this presentation
Chief Complains:

72 Year-old male with mechanical aortic valve on warfarin, pacemaker for sick sinus syndrome and deep brain stimulator for benign essential tremor

C/O Fever, chills and vomiting for two days
History of present illness:

- 38 days ago: End of battery life change for his deep brain stimulator

- 26 days ago: Hematoma at site of battery. Evacuated twice. No fever at that time

- He has no headache, throat pain, runny nose, cough, abdominal pain, change in bowel habits, or dysuria
Significant Past Medical issues:

(1) Mechanical aortic valve replacement for Aortic stenosis due to congenital bicuspid valve
(2) Permanent pacemaker for Sick Sinus Syndrome
(3) Bilateral deep brain stimulator for Essential tremor
(4) Bilateral shoulder replacement
Review of systems:

- Negative except for mild tremor in right hand and fatigue
Family & Social History:

- **Family History:**
  Negative for any rheumatologic disease

- **Social History:**
  Never smoked, rarely drinks Alcohol
Physical Exam:

- **Vitals**: BP172/94, HR 96, RR18, T **101.2 F**
  O2 sat is 92% on room air
- **General**: Toxic appearing patient
- **Neck**: - ve for neck stiffness. No lymphadenopathy
- **HEENT**: PERLA, no photopia, no mouth lesions. Clear throat
- **MSS**: Normal range of movements
• **Lung:** Normal vesicular breathing bilaterally without crackles or wheezing

• **Heart:** Click and systolic murmur grade 1/6 in aortic area (unchanged from previous exam)

• **Abdomen:** Soft without tenderness or rebound

• **Skin:** No swelling, redness or tenderness at site in right chest wall (site of replaced battery)

• **Ext:** No stigmata of infective endocarditis. No lower limb edema

• **Neuro:** Alert, awake oriented. No focal deficit
Work Up:

- CBC was remarkable for elevated white cell count of 16.7
- Lactic acid was normal
- Normal Complete metabolic Panel
- CRP was 1.3
- Procalcitonin was normal
- INR of 4.0
- UA remarkable for elevated white cell count of 20-50, + ve for esterase
- Urine and blood cultures
Hospital Course:

Day (1): IV vancomycin + ceftriaxone

Day (2): Blood culture & urine culture: Gram – ve Bacilli. Antibiotics were switched to Piperacillin/Tazobactam + Levofloaxacin

Another two sets of Blood cultures were sent
• Day(3): Blood cultures final result showed

Elizabethkingia Meningoseptica

Patient was continued only on levofloaxin
• Day (4) :
  Patient continued to improve clinically
  Blood cultures remained –ve
  TTE: No vegetations
  TEE: Small mobile echogenicity in atrial lead suggestive of endocarditis
• **Day (5-8):** Bridged with Heparin infusion to prepare for Pacemaker lead removal

• **Day (9):** Pacemaker leads and generator were removed. Leads were send to culture

• **Days (12):** Leads culture was negative

• **Day (14):** Discharged home with 4 weeks of oral levofloxacin
What do we know so far about Elizabethkingia?

- Elizabethkingia is G–ve aerobic bacilli
- E. anophelis & E. Meningioseptica are the commonest pathogenic organisms in this group
- Associated with neonatal meningitis
- Outbreak affecting 30 patients in a London, UK, critical care unit
- Attributable mortality rate of 54%
# Midwest outbreak (As of June 16, 2016)

<table>
<thead>
<tr>
<th>State</th>
<th>Number of confirmed cases (includes deaths)</th>
<th>Number of deaths among confirmed cases</th>
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<tbody>
<tr>
<td>Wisconsin</td>
<td>63</td>
<td>18</td>
</tr>
<tr>
<td>Michigan</td>
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<td>1</td>
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<tr>
<td>Illinois</td>
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</tbody>
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Common in patient more than 65 years with comorbidities
Why Are We Talking About This?
We have the highest number of cases nationally

Naturally-resistant to beta lactam antibiotics, we have to be careful when we need a broad coverage for sepsis

First reported case of pacemaker lead infection due to Elizabethkingia
Questions
References

2. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4338452/