Tissierella praeacuta bacteremia secondary to fecal exposure

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Tissierella praeacuta bacteremia secondary to fecal exposure

Tissierella praeacuta is a rod-shaped, non-spore forming, Gram-negative strict anaerobe that has been isolated from soil and human feces (1), and it shares 99.9% genomic similarity to the Gram-positive, spore forming Clostridium hastiforme (2). Although it is a normal component of the human gastrointestinal microflora, T. praeacuta is a rare cause of human infection with only two previous cases reported. Identification of the bacterium using 16S rRNA sequencing has demonstrated that it is susceptible to beta-lactams, chloramphenicol, rifampicine, and metronidazole (3).

Case Description

HPI and Hospital Course:
- A 49 year old female presented as a transfer to HFH with several stage 2-4 decubitus ulcers involving the back, buttocks, and right lower extremity, secondary to prolonged inactivity from severe depression.
- Prior to transfer, she had presented to an outside hospital in undifferentiated shock after being found unresponsive in her home and covered in feces, maggots, and animal hair.
- At the outside hospital, she had required vasopressors and endotracheal intubation and was found to have extensive pressure ulcers. Labs were remarkable for WBC 28 K/µL, K+ 6.3 mmol/L, and ammonia 235 umol/L. Piperacillin-tazobactam, vancomycin, and fluconazole were initiated. CT abdomen/pelvis was negative from intra-abdominal abscess.
- She underwent large wound debridement resulting in a 12x14x1 cm wound on her right calf. The outside hospital was unable to create a surgical flap for amputation, and the patient was thus transferred to HFH.
- Blood cultures specified Tissierella praeacuta. Antibiotics were de-escalated to piperacillin-tazobactam only.
- Her course at HFH was complicated by refeeding syndrome, so she was appropriately supplemented with phosphorus, K+, and Mg++.
- She underwent right lower extremity ulcer debridement for source control, and she improved clinically with a two week course of antibiotics, remaining afebrile and hemodynamically stable throughout her hospital stay.
- She was also evaluated by psychiatry and began a regimen of escitalopram.
- The patient was discharged to a subacute rehabilitation facility with plans to follow with plastic surgery as an outpatient and continue management for her depression with her primary care provider.

Past Medical History:
Major depressive disorder, varicose veins of bilateral lower extremities

Past Surgical History:
None

Social History:
Former smoking history of 25 pack years

Review of Systems:
• (+) recent 100-lb weight loss, fatigue, depression
• (+) nausea, vomiting, diarrhea
• (+) chest pain, palpitations, shortness of breath
• (+) headaches, vision changes, changes in sensation
• (+) urinary frequency, dysuria

Physical Exam:
- Blood pressure: 152/72, 36.6 °C (97.9 °F), RR 18, SpO2 96%, weight 134.3 kg (296 lb), BMI 41.3
- Constitutional: well-developed and well-nourished
- Eyes: sclera aniceric, left eye normal, right eye normal, mild R sided ptosis, PERRIL
- Ears/Nose/Mouth/Throat: hearing normal and external ear normal, oropharynx grossly normal without exudates or lesions
- Cardiovascular: regular rate and rhythm, normal S1/S2, no S3/S4, no clicks or rubs.
- Respiratory: clear to auscultation bilaterally, no wheezes, no rales and no rhonchi
- Gastrointestinal: soft, non-tender; bowel sounds normal; no masses, no organomegaly
- Musculoskeletal: R ankle and calf wrapped in dressing, muscle bulk and tone intact
- Skin: multiple decubitus ulcers on backside starting on back and into buttocks and posterior calves with skin redness, excoriation, peeling, R calf and ankle wrapped
- Neurologic: alert and oriented x 4, appropriate tone and movement
- Psychiatric: Tangential speech, depressed mood

Hematologic/Lymph/Immunologic: No edema or lymphadenopathy

Imaging Studies

Figures 1 and 2. Lateral and anterior-posterior X-rays of R tibia and fibula, showing soft tissue involvement of right lower leg.

Figures 3 and 4. Parasagittal and transverse CT abdomen-pelvis images, demonstrating lack of intra-abdominal abscess.

Discussion

- T. praeacuta may be a more common source of human infection than previously expected and should be considered when fecal contamination of wounds is present, as it is normally found in the human gastrointestinal tract.
  - Two other previous cases of T. praeacuta have been reported:
    - A case of T. praeacuta septic pseudoarthrosis of the left femur was successfully treated with piperacillin-tazobactam and metronidazole (3)
    - A case of T. praeacuta bacteremia complicated by pyonephrosis and hepatic abscess was successfully treated with meropenem (3)
  - It is important to treat patients’ underlying psychiatric disease and understand their psychosocial situation in order to prevent disease recurrence and promote overall wellness

Laboratory Values

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<tr>
<th>Test</th>
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<tr>
<td>K+</td>
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<td>WBC</td>
<td>28 K/µL (L)</td>
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<td>Ammonia</td>
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<td>Lactate</td>
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<td>Glucose</td>
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References