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Eggerthella lenta bacteraemia in endometrial adenocarcinoma — a case report from Pakistan

Tazeen Fatima, Rumina Hasan, Samia Tariq

Abstract

We report a case of *Eggerthella lenta* bacteraemia. An elderly lady with metastasised endometrial adenocarcinoma presented with complaints of fever, nausea, vomiting and abdominal pain. CT scan of the abdomen showed enlarged liver with multiple metastatic lesions raising suspicion of small-bowel obstruction. Due to multiple comorbid conditions, surgery was contraindicated and she was treated empirically with meropenem and vancomycin. Blood culture received on admission grew *Eggerthella lenta*.

Keywords: *Eggerthella lenta*, Bacteremia, Endometrial adenocarcinoma.

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Introduction

Eggerthella lenta, an anaerobic, non-sporulating, nonmotile, Gram-positive rod is an emerging pathogen. It is particularly associated with infections in immunocompromised population.¹ The infectious burden of *Eggerthella lenta* (previously known as *Eubacteria* species) is underreported due to challenges in phenotypic identification. *E. lenta* has been identified as the causative pathogen in various conditions including sinusitis, appendicitis, pyomyositis, skin abscesses, and spondylodiscitis but the pathogenicity and virulence is partially understood. We report a case of disseminated anaerobic infection with *Eggerthella lenta* in a patient with diagnosed endometrial carcinoma.

Case Report

A 53-year-old female from middle socioeconomic background and a known case of poorly differentiated endometrial adenocarcinoma with metastasis to lungs, bones, and peritoneum was admitted at the Aga Khan University Hospital on April 12, 2017. She complained of fever, abdominal pain, weakness, nausea and vomiting since the previous day. She had undergone modified radical hysterectomy with bilateral salpingo-

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oophorectomy and bilateral percutaneous nephrostomy in 2016, and primary total hip replacement in 2017.

On admission, the patient's temperature was 39.5°C, blood pressure 112/74 mmHg, pulse 98/min, and respiratory rate was 20 breaths/min. Abdominal examination revealed diffused tenderness while CT scan of the abdomen showed enlarged liver with multiple peritoneal metastatic lesions raising suspicion of small-bowel obstruction. Laboratory investigations showed Hb at 7.8 g/dL, leukocyte count at $16.7 \times 10^9/L$, platelet count at $660 \times 10^9/L$, C-reactive protein (CRP) level at 19.38 mg/dL and creatinine at 1.2 mg/dL. A urine sample and two sets of blood samples were sent for culture. Since surgery was contraindicated due to multiple comorbidities, the patient was managed on empiric antibiotic therapy including intravenous Meropenem 1 gram 8 hourly and intravenous Vancomycin 1 gram 12 hourly.

After three days of incubation, the anaerobic blood culture in BACTEC (Becton Dickinson) system grew gram-positive bacilli. Anaerobic subculture yielded a growth of catalase positive, tiny pinpointed translucent colonies on Blood agar plate. Pleomorphic gram-positive bacilli were observed on Gram stain of the growing colonies. Gram-positive bacilli were consequently identified as *Eggerthella lenta* by API 20 Anaerobe (bioMérieux). Susceptibility was tested by performing minimum inhibitory concentration (MIC) using E-Strip on 5% sheep blood agar and according to Clinical and Laboratory Standards Institute (CLSI) breakpoints.² Etest results demonstrated sensitivity to Amoxicillin/Clavulanate (MIC= 0.047 µg/mL) and Imepenem (MIC=0.015) but resistance to metronidazole (MIC > 256 µg/mL).

Discussion

E. lenta of the Coriobacteriaceae family is an anaerobic, non-spore-forming, gram-positive bacillus first isolated from human faeces in 1935 by Eggerth,¹ the whole genomic sequence was defined in 2009.³ The spectrum of disease caused by this organism is vague and has been most commonly associated with intra-abdominal infections exhibiting symptoms of diarrhoea, vomiting and abdominal pain. It has, however, also been isolated from

various other clinical specimens including blood, abscesses and wounds aspirates.⁴ Risk factors associated with *E. lenta* infections include malignancies, end-stage renal disease, diabetes, pelvic inflammatory disease, decubitus ulcers, abscesses, genitourinary tract infections and gastrointestinal diseases like ulcerative colitis, Crohn's disease, pancreatic and diverticular abscess, and appendicitis. Isolation of *Eggerthella lenta* from blood culture should not be considered as contamination keeping in view high (36-34%) mortality associated with it.⁵ However one view is that the approach to always treat *E.lenta* bacteraemia may lead to overuse of antibiotics but at the same time ignoring and not treating might have grave consequences. Patients with *E.lenta* require apt and immediate evaluation of source that may include skin and soft tissues, obstetric-genitourinary tract or intra-abdominal infections and source control. Though clinical guidelines for treatment of *E.lenta* infections are not established, previous case reports have reported effective treatment with a broad-spectrum β -lactam or combination therapy with metronidazole plus a β -lactam.⁶

An informed verbal consent was obtained on telephone for writing the case report. In this case, the patient presented with high grade fever, nausea, vomiting, abdominal cramps and leukocytosis. Risk factors included endometrial malignancy. The most likely explanation for her bacteraemia was translocation of the organism from the gastrointestinal tract due to disturbed mucosal integrity caused by intestinal obstruction. In view of her multiple comorbidities and a high surgery risk, she was provided with comfort care, along with IV meropenem. The patient, however, succumbed to bacteraemia after 10 days of admission.

Conclusion

We report a patient with a potentially fatal bacteraemia

with *E. lenta*. In summary, *Eggerthella* species can lead to invasive infections in immunocompromised hosts particularly in patients with malignancy and complicated abdominal infections. In view of this case report and previously reported cases, the occurrence of gram-positive bacillus in blood should never be disregarded given its high mortality; it warrants thorough investigation to explore and control the source and avoid complications. More work is required to comprehend the pathogenicity, clinical progression of infections, and antimicrobial susceptibility pattern.

Disclaimer: None to declare.

Conflict of Interest: None to declare.

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