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Case Report

Edwardsiella tarda Bacteremia in Early Pregnancy Complicated by Maternal Sepsis and Intrauterine Fetal Demise: A Case Report

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Abstract

Objective: To report a rare case of *Edwardsiella tarda* bacteremia in early pregnancy complicated by maternal sepsis, sepsis-induced coagulopathy, acute kidney injury, and intrauterine fetal demise.

Case Report: A 32-year-old woman at 13 weeks of gestation presented with sudden-onset high-grade fever, abdominal pain, and vaginal bleeding shortly after consuming freshwater fish. She had no preceding diarrhea or vomiting. During hospitalization, she developed persistent fever, anemia, thrombocytopenia, acute kidney injury, and coagulopathy, with a sepsis-induced coagulopathy score of 5. Obstetric ultrasonography confirmed absence of fetal cardiac activity, and emergency vacuum aspiration was performed. Blood cultures grew *Edwardsiella tarda*, while stool cultures were sterile. She was treated with intravenous piperacillin-tazobactam, fluid resuscitation, oxygen supplementation, and blood transfusion. Her fever subsided, renal function and coagulation parameters normalized, and she was discharged in stable condition.

Conclusion: Invasive *Edwardsiella tarda* infection during pregnancy is extremely uncommon but may cause severe maternal sepsis and adverse fetal outcome even without gastrointestinal symptoms. Recent freshwater fish exposure may provide an important diagnostic clue. Early blood culture sampling, prompt antimicrobial therapy, and supportive care are essential for maternal recovery.

Keywords: Bacteremia; *Edwardsiella tarda*; Intrauterine Fetal Demise; Pregnancy; Sepsis; Sepsis-Induced Coagulopathy

Introduction

Edwardsiella tarda is an uncommon food- and waterborne Gram-negative organism that is usually associated with gastrointestinal illness, but invasive infection can occasionally occur. Pregnancy may create a vulnerable clinical setting in which such infections progress rapidly and affect both maternal and fetal outcomes. We report a case of culture-

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proven *E. tarda* bacteremia in early pregnancy complicated by maternal sepsis, sepsis-induced coagulopathy, acute kidney injury, and intrauterine fetal demise.

Case report

A 32-year-old pregnant woman at 13 weeks gestation presented with sudden-onset high-grade fever, abdominal pain, and vaginal bleeding shortly after consuming "*Rebbai*," a type of freshwater fish (Figure 1). She denied any history of diarrhea, vomiting, or use of proton pump inhibitors, antacids, alternative medications, or supplements.

Figure 1: Photograph of the freshwater fish, (local-Rebbai) reportedly consumed by the patient prior to symptom onset; the image was subsequently provided by her husband from the local market where it had been purchased.

On admission, the patient was febrile, tachypnoeic with a respiratory rate of 22 breaths per minute, tachycardic with a heart rate of 120 beats per minute, and had a blood pressure of 140/80 mmHg. Initial laboratory investigations revealed anemia with a hemoglobin level of 11.1 g/dL.

Despite treatment, her condition deteriorated with persistent fever. She developed a drop in hemoglobin from 11.1 g/dL to 9.9 g/dL, thrombocytopenia with platelet counts falling to 87,000/µL, acute kidney injury evidenced by a creatinine of 1.22 mg/dL, and coagulopathy with an INR of 1.55 and an aPTT of 34.2 seconds. These findings were consistent with sepsis and sepsis-induced coagulopathy (SIC), with a SIC score of 5, indicating significant coagulation dysfunction.

Fetal assessment confirmed the absence of cardiac activity, necessitating an emergency vacuum aspiration of the fetal products. The patient was started on intravenous piperacillin-tazobactam while awaiting blood culture results. Supportive management included intravenous fluids, blood transfusions, and oxygen supplementation.

Blood cultures subsequently grew *Edwardsiella tarda*, a rare human pathogen, while stool cultures remained sterile. The patient received intravenous piperacillin-tazobactam for eight days, leading to full clinical recovery. Her acute kidney injury and coagulopathy resolved, with an INR of 0.96 and creatinine of 0.50 mg/dL at discharge. She was discharged in stable condition.

Discussion

Edwardsiella tarda (E. tarda) is a Gram-negative bacillus belonging to the Enterobacteriaceae family, commonly found in freshwater ecosystems inhabited by amphibians, reptiles, and fish (1, 2). *Edwardsiella* species are not considered part of the normal human microbiota, including the gastrointestinal tract. Limited data suggest that the fecal carriage rate of *E. tarda* in humans ranges from 0% to 0.8%, indicating that nearly all *Edwardsiella* infections are acquired from exogenous sources (3).

Human infections caused by *E. tarda* are rare. In this case, the patient developed severe sepsis following the consumption of contaminated freshwater fish, with bacterial translocation from the gut being the likely route of infection.

While *E. tarda* infections typically manifest as gastroenteritis in immunocompetent individuals, this case highlights the potential for severe extraintestinal manifestations in pregnant women—a well-recognized immunocompromised state (4, 5). *E. tarda* has been implicated in a variety of extraintestinal infections, including septicaemia, meningitis (6), cholecystitis (7), mycotic aneurysms (1, 2) and even maternofoetal infections (1, 8) to such severe complications.

This case expands the sparse pregnancy literature on *Edwardsiella tarda* by showing that early gestational bacteremia can present without preceding gastrointestinal symptoms and still result in severe maternal sepsis and intrauterine fetal demise. Delayed diagnosis and treatment can lead to mortality rates as high as 40% (9). However, as demonstrated here, early diagnosis combined with prompt initiation of effective antibiotic therapy can significantly improve patient outcomes.

Furthermore, this case emphasizes the need for dietary counselling during pregnancy (10) to avoid high-risk foods, such as inadequately processed freshwater fish, that may harbour rare pathogens. Continuous vigilance for sepsis-related complications, alongside supportive care and appropriate antimicrobial therapy, remains essential to ensure favourable prognoses in such cases.

Conclusion

Edwardsiella tarda bacteremia during pregnancy is extremely rare but can lead to severe maternal sepsis and adverse fetal outcome. Recent freshwater fish exposure may provide an important diagnostic clue, even when gastrointestinal symptoms are absent. Early blood culture sampling, prompt broad-spectrum antimicrobial therapy, and aggressive supportive care are essential for maternal recovery.

Conflict of Interests

Authors declare no conflict of interests.

Acknowledgments

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