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Tricuspid Infective Endocarditis Caused by Streptococcus Agalactiae After an Elective Abortion

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ABSTRACT

Introduction: Streptococcus agalactiae, also known as Group B Streptococcus, is increasingly causing invasive diseases in non-pregnant women and elderly adults. This includes infective endocarditis after elective abortion, with a rising incidence and more severe outcomes compared to other streptococcal infections. Clinical practice must focus on early diagnosis and appropriately managing this rare but severe complication. Our case report discusses a case of Streptococcus agalactiae infective endocarditis following an elective abortion.

Case: A 25-year-old female, one-month post-elective abortion, presented with dyspnea, yellow blood-tinged sputum, chest pain, and migratory arthralgia. Physical examination revealed tachycardia, tachypnea, reduced air entry, and joint tenderness. Blood work showed elevated WBC, lactic acid, and procalcitonin, with blood cultures positive for group B streptococcus agalactia. Imaging revealed pulmonary infiltrates, pericardial effusion, and Hepatosplenomegaly. Antibiotics (Rocephin, azithromycin, vancomycin) and steroids were administered, with limited improvement. Transesophageal echocardiogram (TEE) revealed tricuspid valve vegetations, leading to a switch to Ceftriaxone for six weeks due to subacute presentation.

Conclusion: Streptococcus agalactiae infective endocarditis is a rare but severe complication, particularly in non-pregnant adults. The incidence of this condition following elective abortion has raised concerns about the need for increased awareness and proactive measures in clinical practice. Recognizing early symptoms and implementing appropriate care is crucial due to the potentially high mortality rate associated with this infection. More research is needed to improve patient outcomes and reduce morbidity and mortality from this emerging complication.

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Received: January 02, 2024; **Accepted:** January 05, 2024; **Published:** January 10, 2024**Introduction**

Streptococcus agalactiae, also known as Group B Streptococcus, is a gram-positive, β -hemolytic organism that has been increasingly reported as a causative agent in various human infections [1].

Streptococcus agalactiae is known to cause invasive diseases in pregnant women and neonates. Still, recent studies have revealed a growing trend of invasive diseases in non-pregnant women and elderly adults. These infections now encompass many conditions, including bacteremia, endocarditis, skin and tissue infections, osteomyelitis, and sepsis [2]. The inner lining of the Infective endocarditis is a severe infection of the heart chambers and valves. It can lead to significant morbidity and mortality if not promptly diagnosed and treated. Streptococcus agalactiae infective endocarditis is a rare but severe complication that can occur following an elective abortion. The incidence of Streptococcus agalactiae infective endocarditis is on the rise, showing more extensive vegetation, more valve destruction, embolic events, and a higher mortality rate than other streptococcal infective endocarditis. This trend is concerning and highlights the need for increased awareness and proactive measures to address

the changing epidemiological characteristics of Streptococcus agalactiae infections. While it rarely causes infections in non-pregnant patients, the rising incidence of GBS-infective endocarditis is a cause for concern.

Elective abortion, as a risk factor for Streptococcus agalactiae infective endocarditis, requires special attention and consideration in clinical practice to ensure early diagnosis and appropriate management. It has been reported to be associated with larger vegetations, more valve destruction, more embolic events, and a higher mortality rate compared to other streptococcal infective endocarditis cases.

Diagnosis and management of Streptococcus agalactiae infective endocarditis following an elective abortion can be challenging. Still, prompt recognition and appropriate treatment are crucial in improving patient outcomes and reducing morbidity and mortality associated with this rare but severe complication. Treatment includes immediate administration of intravenous antibiotics targeting Streptococcus agalactiae, such as penicillin or Ceftriaxone, and surgical intervention if necessary.

Our case presents a unique and rare occurrence of Streptococcus agalactiae tricuspid valve endocarditis following an elective abortion in a non-pregnant patient.

Case

A 25-year-old female with a history of an elective abortion one month ago presented with a three-week history of dyspnea, yellow blood-tinged sputum, pleuritic chest pain, and migratory arthralgia. Social and travel records were non-contributory. At the time of presentation, she was tachycardic and tachypnic. The physical examination revealed reduced air entry with crackles during inhalation in both lung fields and tenderness and stiffness in the left wrist and ankles. Her blood work showed WBC 22000 K/ μ L, Lactic acid 3.3 mmol/L, Procalcitonin 1.53 ng/mL, Blood Cultures showed group b streptococcus agalactiae, rheumatoid factor is negative, anti-dsDNA was elevated at 15.7. CTA of the chest showed Bilateral pulmonary infiltrates, negative for pulmonary embolism. According to the transvaginal ultrasound, recent termination of pregnancy was evident; the abdominal CT scan revealed mild pericardial effusion and Hepatosplenomegaly, while the TTE results were inconclusive.

The patient was initially started on Rocephin and Azithromycin, but there was no progress. After the blood culture returned showing group b streptococcus agalactiae, vancomycin was prescribed as the antibiotic but showed no improvement. The patient was administered intravenous steroids, resulting in slight clinical improvement. Given the persistent tachycardia and lack of significant clinical improvement, TEE was considered, which showed Tricuspid valve vegetations of 20.0, 7.6, and 3.0 mm. The patient's treatment was then changed to Ceftriaxone for six weeks due to her subacute presentation.

Discussion

Our case highlights the challenging and evolving nature of Streptococcus agalactiae infections, particularly in non-pregnant adult patients. This specific case of tricuspid valve endocarditis following an elective abortion underscores the need for increased vigilance and consideration of rare presentations of this bacterium. The unique nature of this case, with its atypical presentation and initial lack of response to empiric antibiotic therapy, serves as a reminder of the diverse manifestations and antibiotic resistance patterns that may be encountered with Streptococcus agalactiae infections.

Current literature reports a prevalence of Streptococcus agalactiae infective endocarditis in 2-9% of cases, making it a relatively uncommon cause of infective endocarditis. While the typical patient with SA endocarditis in the pre-antibiotic era was a young pregnant woman with a mitral disease, our case highlights the evolving epidemiological characteristics and the atypical presentations of this bacterium in non-pregnant adults.

Furthermore, it is essential to note that our patient did not have a history of intravenous drug use, a common risk factor for tricuspid valve endocarditis. However, her history of elective abortion raises the possibility of an iatrogenic source of infection, highlighting the importance of considering gynecological procedures as potential sources of bacteremia and endocarditis [3]. Our case brings to light tricuspid endocarditis presenting with septic pulmonary emboli and nonspecific polyarthritides. Recognizing gynecological procedures as a risk factor for GBS endocarditis is crucial. Mortality from GBS endocarditis, whether it presents as an acute or subacute infection, may reach 40%, suggesting that GBS valve infections are more virulent than those caused by most other streptococcal species [4].

Conclusion

Our case sheds light on the evolving features and uncommon manifestations of Streptococcus agalactiae infective endocarditis in non-pregnant adults. The growing incidence of this rare but severe complication following elective abortion raises concerns about the need for increased awareness and proactive measures in clinical practice. It's essential to consider gynecological procedures as potential sources of bacteremia and endocarditis, especially in non-pregnant patients with a recent history of elective abortion.

The diagnosis and treatment of Streptococcus agalactiae infective endocarditis are complex. It's important to recognize it early and manage it properly. Our case shows that the symptoms and antibiotic resistance profiles can vary. Early use of transesophageal echocardiography is crucial for prompt diagnosis and appropriate care, including potential surgical intervention. Given the potentially high mortality rate linked to Streptococcus agalactiae infective endocarditis, it's essential to conduct more research to improve patient outcomes and reduce associated morbidity and mortality from this emerging complication.

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