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Postpartum Disseminated Tuberculosis Masquerading as Severe Sepsis and Pelvic Abscess in a Young Primigravida

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ABSTRACT

Genitourinary tuberculosis (GUTB) remains an underdiagnosed form of extrapulmonary tuberculosis, especially in pregnancy where symptoms overlap with common obstetric and infectious conditions. We report a complex case of a 20-year-old primigravida referred at 33 weeks gestation with fever, dyspnea, anemia, and suspected heart failure following previous blood transfusions. Initial assessments suggested severe malaria, pyelonephritis, and possible chest infection. She subsequently developed preterm labour and delivered a live female neonate at 34 weeks. In the puerperium, she had persistent fever, leukocytosis, elevated ESR, bilateral pleural effusions, and worsening abdominal symptoms. Imaging revealed multiloculated pelvic collections and hepatomegaly. Despite broad-spectrum antibiotics, her condition deteriorated. Emergency laparotomy revealed massive ascites, widespread fibrinous adhesions, pyosalpinx, and numerous tubercles on the bowel surfaces. Histopathology of the fallopian tube confirmed chronic granulomatous inflammation consistent with tuberculosis, and stool GeneXpert detected Mycobacterium tuberculosis. She was commenced on antituberculous therapy (ATT), with subsequent clinical improvement. At follow-up, she developed facial swelling and proteinuria likely secondary to post-TB nephropathy or ATT-related renal involvement, necessitating continued evaluation.\

This case highlights diagnostic difficulties of extrapulmonary TB in pregnancy, the risk of misclassification as bacterial sepsis or malaria, and the potential for dissemination in the immunological milieu of pregnancy and the puerperium. Early use of GeneXpert, heightened clinical suspicion, and multidisciplinary management are essential to preventing morbidity.

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INTRODUCTION

Tuberculosis (TB) remains one of the leading infectious causes of morbidity and mortality worldwide. According to the World Health Organization, millions of new infections occur annually, with a substantial proportion arising from high-burden countries in sub-Saharan Africa. Although pulmonary TB is the most recognized manifestation, extrapulmonary tuberculosis (EPTB) contributes significantly to disease burden, accounting for approximately 15–25% of notified cases and an even higher proportion among women and immunologically vulnerable populations (1,2).

Genitourinary tuberculosis (GUTB) represents one of the common forms of EPTB and may involve the kidneys, ureters, bladder, fallopian tubes, endometrium, and ovaries (3). Female genital tuberculosis (FGTB) is particularly important in reproductive health because it is strongly associated with infertility, menstrual irregularities, and chronic pelvic pain (4). Consequently, its detection during pregnancy is unusual, as tubal damage often precedes conception. When it does occur, the diagnosis is frequently missed or delayed because clinical features mimic more prevalent obstetric or infectious conditions such as urinary tract infection, malaria, pneumonia, or puerperal sepsis (5).

Physiological immune adaptations in pregnancy further complicate recognition. Relative suppression of cell-mediated immunity, necessary for fetal tolerance, may permit reactivation or dissemination of latent infection (6). Symptoms such as fever, anemia, tachycardia, dyspnea, and abdominal discomfort are nonspecific and may easily be attributed to common pregnancy-related disorders (7). Radiological evaluation may be limited due to fetal safety concerns, and microbiological confirmation is often difficult because genital TB is typically paucibacillary (3,8).

Delayed diagnosis can result in severe complications including preterm labour, maternal sepsis, peritonitis, tubo-ovarian abscess, and pleural involvement (4,9). In endemic settings, maintaining a high index of suspicion is therefore crucial, particularly when patients fail to improve with conventional antimicrobial therapy.

We report a primigravid woman whose illness evolved from presumed malaria and pyelonephritis to puerperal sepsis with pelvic abscess and pleural effusion, ultimately confirmed as disseminated tuberculosis after surgical exploration and histopathology.

CASE PRESENTATION

A 20-year-old Hausa primigravida at approximately 33 weeks' gestation was referred with easy fatigability, dyspnea, urinary frequency, and fever of 2 weeks. She previously received two blood transfusions at 10 and 16 weeks of gestation due to similar symptoms.

The initial clinical findings on presentation were fever (39°C), tachypnea (44 cpm), tachycardia (144 bpm), bilateral coarse crepitations, ascites and fetal tachycardia (192 bpm)

The laboratory findings were essentially anemia (PCV 26%), leukocytosis, thrombocytosis, microcytosis, severe malaria parasitemia and chest examination suggested possible fluid overload and pneumonia.

She was initially treated for heart failure secondary to fluid overload, severe malaria and possible chest infection, and the treatment included IV furosemide, IV artesunate, antibiotics, and supportive care.

Cardiology suspected resolving fluid overload and pyelonephritis in pregnancy and a repeat urine test showed hematuria and proteinuria and Urine MCS showed no bacterial growth.

At 34 weeks, she developed premature contractions, received dexamethasone, and delivered a live female neonate (1.7 kg, Apgar 8/9). Three days postpartum, she developed persistent fever, pleural effusions on CXR, abdominal tenderness, and elevated ESR (116 mm/hr). Ultrasound showed hepatomegaly**,** bilateral renal parenchymal disease and extensive multiloculated pelvic collections suggestive of abscess

Antibiotic escalation (ceftriaxone, augmentin) failed to resolve the fever. Due to worsening sepsis, she underwent emergency exploratory laparotomy. Findings included 1000 mL straw-coloured ascites, widespread fibrinous adhesions ("bread and butter" peritonitis), right pyosalpinx, bulky inflamed tubes and multiple tubercles on bowel surfaces. Samples were taken for histology, culture, and GeneXpert.

Histology report: Chronic granulomatous inflammation with caseation and Langerhans giant cells—consistent with tuberculosis

Stool GeneXpert: MTB detected. A Repeat ESR: 75 mm/hr and Pleural effusion and pelvic abscess supported disseminated TB

She was commenced on Anti-Tuberculosis Therapy (ATT) with pyridoxine. At 6 weeks postpartum, she reported fatigue and weight loss, but adherence to ATT. Later developed facial swelling and proteinuria (suggestive of renal involvement). PCV improved to 45%. She continues follow-up at the TB clinic with significant improvement

DISCUSSION

This case illustrates the protean and deceptive nature of extra-pulmonary tuberculosis in pregnancy and the puerperium. The patient presented with symptoms that strongly suggested more common diagnoses in our environment—severe malaria, urinary tract infection, heart failure from anemia, and bacterial pneumonia. Each of these possibilities was clinically reasonable, yet none fully explained the persistent fever, progressive inflammatory response, and lack of sustained improvement despite broad-spectrum antimicrobial therapy.

Misdiagnosis or delayed recognition of genital TB is widely reported. Because infertility is a hallmark of tubal destruction, clinicians may underestimate the likelihood of FGTB in pregnant women (4). However, hematogenous spread or reactivation during pregnancy can occur, leading to acute presentations including pyosalpinx, pelvic abscess, or peritoneal TB (9,10).

The progressive postpartum deterioration in this patient is also consistent with immune reconstitution phenomena described after delivery. Restoration of cellular immunity may unmask or intensify previously subclinical infection, producing dramatic inflammatory manifestations such as high fever, serositis, and abscess formation (6,11).

Several red flags in retrospect pointed toward tuberculosis: persistently elevated ESR, leukocytosis and thrombocytosis, multiloculated pelvic collections, ascites, bilateral pleural effusions, poor response to antibiotics. Such features should prompt early TB testing in endemic areas (1,12).

Microbiological confirmation remains challenging. Urine cultures were sterile, and respiratory symptoms were minimal initially. This is typical; genital TB is often paucibacillary, making smear and culture insensitive (3). In this patient, diagnosis relied on operative visualization of tubercles and classic histology demonstrating caseating granulomas with Langerhans giant cells. Molecular testing later supported Mycobacterium tuberculosis infection.

Surgical findings of dense adhesions ("frozen pelvis") and pyosalpinx are well-described consequences of advanced disease and carry implications for future fertility (4,10). Early treatment might have prevented such extensive damage.

Maternal TB is associated with adverse obstetric outcomes including preterm birth, low birth weight, and increased neonatal morbidity (7). The preterm delivery at 34 weeks in this case aligns with existing literature.

This report reinforces several practice points:

1. Failure of sepsis to respond to appropriate antibiotics warrants reconsideration of diagnosis.
2. High ESR with serosal involvement should raise suspicion for TB.
3. Multidisciplinary collaboration between obstetrics, infectious disease, radiology, and surgery is critical.
4. Histopathology remains invaluable where rapid molecular diagnostics are unavailable or inconclusive.

CONCLUSION

Extrapulmonary tuberculosis should be considered in pregnant or postpartum women presenting with persistent fever, abdominal pain, and sepsis not responding to conventional therapy, especially in TB-endemic regions. Early imaging, GeneXpert testing, and multidisciplinary management can reduce morbidity. This case underscores the importance of maintaining a high index of suspicion for pelvic and disseminated TB in pregnancy.

PATIENT CONSENT

Written informed consent was obtained from the patient for publication of this case and accompanying data. Patient identifiers have been removed.

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