Tuberculous peritonitis during pregnancy: Case report

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**Abstract**

**Introduction:** Tuberculous Peritonitis (TP) in pregnancy is a rare condition, and the diagnosis can be delayed because of the symptoms non-specificity.

**Case report:** 31-year-old parturient primigravidia at 34 weeks of amenorrhea presented diffuse and intense abdominal pain with vomiting. Examination found abdominal distention with ascites. Investigations did not lead to a precise diagnosis, therefore, an exploration by laparotomy with cesarean delivery were performed. The diagnosis of Tuberculous peritonitis on histopathologic examination was confirmed.

**Discussion:** Tuberculous peritonitis is extremely rare in pregnancy, and the rate of TP among all forms of tuberculosis varies from 0.1% to 0.7% worldwide. Gold standards for the diagnosis of TP are the identification of M. tuberculosis in ascites and peritoneal biopsy findings compatible with tuberculosis. Bacteriologic examination of the biopsy specimen should be performed, because this could be positive for tuberculosis when histological examination is negative.

**Conclusion:** The early diagnosis and treatment of TP in pregnancy are important to prevent obstetric and neonatal morbidities.

**Keywords:** tuberculous peritonitis; pregnancy; rare; delayed diagnosis.

**Abbreviations:** TP: Tuberculous Peritonitis; ICU: Intensive Care Unit; AST: Aspartate Aminotransferase; ALT: Alanine Transaminase.
weeks of amenorrhea and was discharged after normal investigations with symptomatic treatment.

The parturient was re-admitted to the emergency room for diffuse and intense abdominal pain with vomiting.

On admission, physical examination revealed a conscious patient who was instable hemodynamically with a blood pressure of 90 mmHg/50 mmHg and a heart rate of 120 bpm, a respiratory rate of 25 cycle per minute and body temperature 38.3°C. There was signs of dehydration with unquantified weight loss.

Gyneco-obstetrical examination revealed diffuse abdominal tenderness with abdominal distention. Fetal heart sounds were perceived, and no uterine contracture was found. The parturient was not on labor, and the amniotic sac was intact, with no per vaginal bleeding.

Obstetric ultrasound revealed a progressive monofetal pregnancy with an estimated fetal weight of 2400 g, corresponding to the 50th percentile. The quantity of amniotic fluid was adequate. There was ascites of average abundance.

The fetal heart rate registration was normal. Laboratory investigations revealed hemoglobin 10.9 g/dL, hematocrit 30.8, neutrophil count 87.7%, thrombopenia with platelet count 98,000/mm³, C-reactive protein 230 mg/L. Liver function testing showed; Aspartate Aminotransferase (AST) 211 U/ml, Alanine Transaminase (ALT) 120 U/ml, serum Na⁺ 129 mEq/L, K⁺ level 2.8 mEq/L, CL- 103 mEq/L, and albumin 2.8 g/dL. Serology was negative for viral hepatitis (B and C). The renal function test results were normal; procalcitonin 2 µg/L and a negative blood cultures, lactates 3.7 mmol/L.

The suspected diagnosis was sepsis at probably abdominal starting point.

The patient was shifted to Intensive Care Unit (ICU) for further management. A central venous line was restored, urinary catheterization and oxygen. Cardiac evaluation was without anomalies. She was started on 30 ml/kg of Saline intra venous. Infusion 0.9% and intra venous probabilist antibiotics (cefotaxim, metronidazol) with management of the hydroelectrolytic disorder.

After 8 hours of stabilisation, a multidisciplinary decision by the gynecologist and the anesthesiologist was made to explore the abdomen and deliver by Caesarean section (34 gestational weeks).

The patient was rushed to the operating room and put under general anesthesia. A Pfannenstiel-type incision was made. Intraoperatively, a large amount of yellowish, clear ascitic fluid was found, a cytobacteriological sampling of ascites fluid has been made. The delivery by cephalic extraction of a 2300 g female newborn APGAR 10/10 at the first and fifth minute.

Many small white nodules were found with in the entire abdominal cavity, including the peritoneum, parietal and splanchnic (e.g. serosal surface of intestine, uterus, etc.), and greateromentum (Figures 1, 2). We performed a peritoneal and greateromentum biopsies.

Tuberculous peritonitis was highly suspected at the surgery, and thus, antituberculous isoniazid, rifampin, pyrazinamide, and ethambutol chemotherapy was promptly started. Histopathologic examination findings revealed numerous caseating granulomatous inflammations caseo-follicular type in the biopsy and the identification of M. tuberculosis in ascites fluid.

The patient stayed at the intensive care unit for four days with good evolution and improvement of biological assessments and was shifted to the obstetrics unit; she was declared discharged after five days.

The newborn was kept in neonatology unit for investigation and monitoring and put under preventive antituberculous treatment than got discharged with the mother.

Discussion

Tuberculous peritonitis is extremely rare in pregnancy, and the rate of TP among all forms of tuberculosis varies from 0.1% to 0.7% worldwide [1]. In literature there is a few cases of pregnancy with gestational ages between 20 and 24 weeks of gestation [2,3]. In our case, gestational age was 34 weeks and vomiting started at 24 weeks of gestation.

Tuberculous peritonitis invades the entire abdominal cavity, it affects the parietal and visceral peritoneum, the omentum, the liver, the spleen, the intestinal tract and the pelvic cavity [4]. A possible mechanism to explain the pathogenesis of TP is the reactivation of latent tuberculous foci in the peritoneum or hematogenous spread from primary pulmonary tuberculo-
sis [1]. However, the primary focus in the lungs is often healed completely, there by precluding its identification, despite careful examination of the patient [5].

The clinical symptoms of TP are non-specific, it is commonly associated with abdominal distension, pain, fever, chill, and weightloss. Our patient experienced most of those symptoms even so, we did not at any moment suspect the diagnosis of TP.

Gold standards for the diagnosis of TP are the identification of M. tuberculosis in ascites and peritoneal biopsy findings compatible with tuberculosis [1]. In fact, the positive ascites culture rate for M. tuberculosis is less than 50% [6] in our case the M. tuberculosis was identified in the ascites fluid.

Because of its clinical presentation (ascites, abdominal tenderness and abdominal masses), PT is often misdiagnosed as advanced ovarian cancer. Bacteriologic examination of the ascitic fluid is not always diagnostic [7] and clearly is not helpful when the patient is operated on an emergency basis.

Exploratory laparotomy or diagnostic laparoscopy. Bacteriologic examination of the biopsy specimen should be performed, because this could be positive for tuberculosis when histologic examination is negative. This examination includes the identification of acid-fast bacilli (Ziehl—Neelsen staining positive), positive culture for M. tuberculosis and positive PCR for M. tuberculosis complex [8,9].

Conclusion

The diagnosis of TP in pregnancy is challenging, and therefore, it should be suspected when ascites and uncontrolled fever are present during pregnancy. Accurate diagnosis requires histopathologic examination and the isolation of M. tuberculosis from ascites and/or caseous necrotic granulomas from peritoneal biopsy nodules. The early diagnosis and treatment of TP in pregnancy are important to prevent adverse obstetric and neonatal morbidities.

References