Unusual presentation of tuberculosis in pregnancy: a diagnostic difficulty

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In India, pulmonary tuberculosis (TB) is highly prevalent but has rarely been reported as an underlying cause of Acute Respiratory Distress Syndrome (ARDS). Nonspecific symptoms and progressive respiratory failure in immunocompetent individuals affected by disseminated TB, especially during the perinatal period, can complicate the diagnosis. We report a case of a 24-year-old second gravida ante-partum woman of 38-week gestation presenting with high-grade fever and 3-day cough. There were no known systemic or gestational comorbidities. BP — 110/70 mm Hg, PR — 102/min, respiratory rate-28 cycles/min, SPO_2 — 89% room air at the time of presentation. She underwent normal vaginal delivery on the same day. Chorioamniomitis was suspected in view of a foul-smelling discharge, and antibiotics were started. She was intubated for respiratory distress one day after delivery. Arterial blood gas analysis showed reduction in arterial partial pressure of oxygen (PaO_2) and fraction of inspired oxygen (FiO_2) ratio of 190, suggestive of moderate-ARDS fulfilling the Berlins-criteria [1].

Her blood, urine and endocervical swab cultures were normal. WBC count was 9700Cells/mm^3 (normal: 4,000–10,000 cells/mm^3) and C-reactive protein was 4.2 mg/L (positive > 5 mg/L). Pro-calcitonin levels were 0.46 ng/mL (normal < 0.25 ng/mL) — suggestive of possible infection. 2-dimensional echocardiography was normal. Chest computed tomography showed diffuse nodular opacities and consolidation changes with minimal pleural effusion on right side (Figure 1). Repeated tracheal aspirate bacterial cultures and CBNAAT were

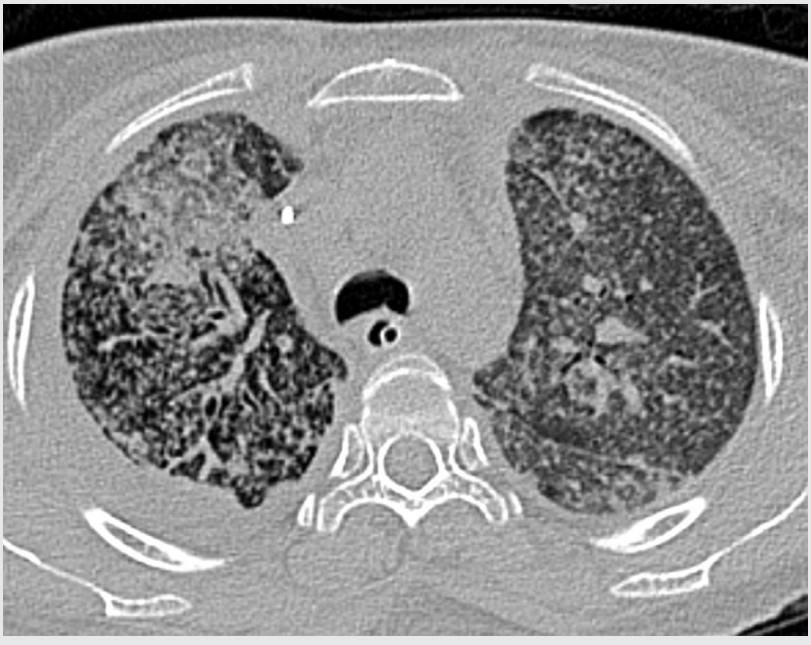

Figure 1. Computerized tomography scan of thorax

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normal. Diagnostic pleural fluid aspiration was suggestive of exudative effusion with adenosine deaminase of 52 IU/L. Pleural fluid CBNAAT detected *Mycobacterium tuberculosis* with no rifampicin resistance. Patient's clinical condition was improved after 8 days of antituberculosis therapy and was weaned off from ventilator in due course.

Diagnosing tuberculosis in pregnancy is difficult because of the nonspecific presentation and reluctance to order radiological investigations [2]. Tuberculosis presenting as ARDS is rare and will occur because of physiological immunosuppression and inflammation due to massive release of tubercular antigens, such as lipoarabinomannan, tumor necrosis factor-alpha [TNF-a] and interleukin-1b [IL-1b]. During pregnancy, the mother's immune system acquires a physiologically immunosuppressive state via suppression of Th1 cytokines, such as IL-12 and interferon-gamma (IFNγ), which are detrimental to the fetus, and by causing an elevation in pregnancy-supportive of Th2 (IL-10) cytokines [3]. Reversal of Th2 to Th1 in the immediate post-pregnancy period may be associated with a heightened inflammatory response indicating underlying latent infectious diseases, such as TB [4]. One should always suspect TB as an etiological agent in young immunocompetent peripartum individuals presenting with ARDS, especially in countries where TB burden is very high.

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