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DIAGNOSTIC DILEMMA DUE TO DIVERSE PRESENTATION OF TUBERCULOSIS: SERIES OF 3 CASES

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E-mail of Corresponding Author: deepti_shrivastava69@yahoo.com**ABSTRACT**

Tuberculosis is still a common culprit for illhealth in India, particularly in rural areas. For infertility and other gynaecological disorders we routinely rule out any possibility of it but less stress is given for its co-incidental association in obstetric patients. High degree of suspicion remains the only tool in some cases. We are hereby presenting 3 cases of tuberculosis presented altogether differently, along with obstretic conditions.

INTRODUCTION

Tuberculosis is the leading infectious disease in the world. In developing countries and certain areas of industrialized countries, rates of tuberculosis are highest among women and men of childbearing age. Tuberculosis (TB) and pregnancy are two different types of stresses experienced by women. Their simultaneous presence affects them both physically and mentally. India accounts for 30% of the burden of all TB cases in the world¹. A early diagnosis of TB infection in a pregnant woman is important as Infant and maternal mortality are between 30% and 40% in untreated active TB cases.

However, unfortunately the diagnosis of TB during pregnancy is usually delayed (for 2–30 weeks) because of its non-specific symptoms and protean manifestation. Up to 20% of pregnant women with TB are asymptomatic or have only atypical symptoms². Here we are presenting 3 cases of tuberculosis with different presentations.

CASE REPORTS**Case 1**

A 23 year old primigravida attended the antenatal clinic with history of amenorrhea since 2 months with 4-5 episodes of vomiting per day. She was

married since 3 months with her menstrual cycles being regular with scanty flow. On examination, she was thin built. Her other findings and routine antenatal investigations were within normal limits. Ultrasound showed single live intrauterine pregnancy of 7.5 weeks gestation with good cardiac activity. She was prescribed folic acid and doxylamine tablets. She returned back after 2 days with increasing episodes of vomiting, her general condition appeared poor, hence was advised admission, but as patient was not willing for admission, she was prescribed oral hydration with glucose supplements and anti-emetics, after urine ketone examination revealed negative. She returned again after 2 days with uncontrolled vomiting and severe abdominal pain. Her general condition was further poor and tenderness over the abdomen was present with mild distention. Ultrasound was repeated which suggested distended bowel loops with intrauterine pregnancy of 8 weeks with absent cardiac activity. Surgeons' opinion was obtained and on abdominal x-ray, multiple gas-fluid levels were seen. Laparotomy along with D& E was planned. Resection anastomosis of small intestine was done due to stricture present at terminal ileum along with multiple fibrous adhesions, which later on

confirmed as Koch's abdomen on histopathology and microbiology of resected part of ileum where typical caseating granulomas were present. Her intra and post operative period was uneventful and later on she responded very well to anti-tubercular treatment as per advice of TB-Chest physician. She was not having any evidence of pulmonary tuberculosis and diagnosed as extra-pulmonary, category 1-case of TB and drugs given were $2H_3R_3Z_3E_3 + 4H_3R_3$ as per RNTCP norms⁷.

Case 2

A 25 years old lady G4A3 of good socio-economic status was admitted on 29th of May 2008, during emergency hours with amenorrhea since 8 months, with complaints of fever and cough since 20 days, with haemoptysis since 4 hours and dyspnea. She was not a booked case of our institute but admitted in some private nursing home of nearby peripheral town since 7 days for fever and cough. On general examination, she was of average built, pale, temperature of 100 degree Fahrenheit, pulse- 90 beats per minute, blood pressure was 130/80mmHg. On examination of the respiratory system, basal crepitations and rhonchi were present on the left side. Abdominal examination revealed a fundal height of 32 weeks, with cephalic presentation, FHS was 140/min, regular and uterus was relaxed. On internal examination, cervical os was 1 cm. dilated, 50% effaced, membrane was present, station was at -2 and pelvis was adequate for baby size. Routine investigations revealed Hb of 6 gm%, TLC-16,400. peripheral smear showed microcytic, hypochromic blood picture. Blood group was O+ve. Her other investigations were within normal limits. Ultrasound suggested single live intrauterine fetus of gestational age of 34 weeks, placenta was fundoposterior. Ultrasound suggested left sided pleural effusion of 40-50cc fluid. X-ray chest suggested left upper lobe consolidation and suspicious of Koch's abdomen. Her mother gave history of receiving AKT 10 years back. Opinion of Chest physician was sought, all 3 samples of

sputum AFB were negative. She was diagnosed as Category 1, seriously ill, smear negative pulmonary tuberculosis⁷ hence Along with broad spectrum Antibiotics, Ethamsylate, $2H_3R_3Z_3E_3 + 4H_3R_3$ regimen, patient was shifted to TB ward. She still had persistent haemoptysis, on and off, received 5 units of whole blood transfusion and after 20 days, she was back at labour ward and delivered a near term male baby of weight 2.7kg. Baby did not exhibit any signs/symptoms of congenital tuberculosis but prophylactic Isoniazide 5mg/kg body weight was started to him along with Vitamin K. After 7 days of delivery, she had sudden collapse of left lung [Fig-1] due to blood clots in left bronchus, which was diagnosed and removed by rigid bronchoscopy [Fig-2]. Later on after 7 days, patient was totally asymptomatic and discharged. Anti tubercular treatment was given to both mother and baby. Baby was on mixed feeds of formula and breast milk, as in between mother was not able to feed him properly due to her poor general condition. Patient was discharged in a stable condition with exclusive breast feeding and to be followed up at the local TB center for direct observation therapy. No further episode of hemoptysis was reported at follow up after 6 weeks of delivery at our OPD and baby gained adequate weight and was on total breast feeding.



Fig. 1 Showing Complete left lung collapse.

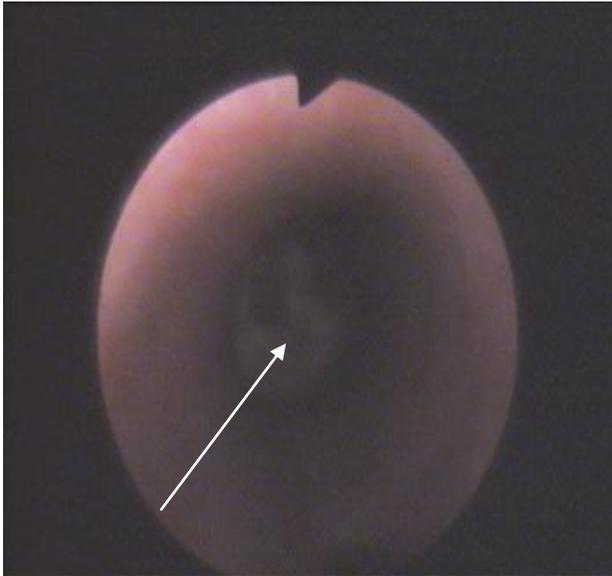


Fig. 2 : Clot in the left bronchus

Case 3

A 36 year old primigravida was referred from a peripheral centre, during emergency hours, with history of amenorrhea since 9 months with premature rupture of membranes since 2 days and non-progress of labour. Patient had a history of spontaneous conception 15 years after her marriage. Her general examination was within normal limits. On per abdomen-uterus was full term size, cephalic presentation, FHS was present, being 110 beats/min, irregular in nature. On per vaginum, cervix was 3 cm. dilated, 25% affected, caput was present with head being at station -3. She underwent Emergency LSCS in view of PROM with fetal distress. A male baby of wt. 3.2kg was delivered with mild birth asphyxia. She was started on liquid diet from 2nd post-operative day and catheter was removed on 3rd day. From day 3rd post-op she started developing high graded fever, associated with chills. TLC count was 21,000 along with features of septicemia. Toxic granules were present on peripheral smear; other investigations were within normal limits. Wound was healthy, high vaginal swab, urine for culture

and sensitivity and blood culture was sent, which later on showed sterile. She was having spikes of 102-103 degree Fahrenheit temperature, intermittently, hence injection chloroquine along with broad spectrum antibiotics were continued. Her fever subsided on day 6th post-op. she was taking full oral diet and bowel/bladder habits were normal. Her sutures were removed on day 8 and she had rise of temperature the next day. On her abdomen examination, mild ascites was suspected, hence ultrasound directed fluid aspiration was done and samples were sent for routine and microscopic examination along with culture and sensitivity. Abdominal wound was absolutely normal without any discharge or induration. To our surprise report of ascitic fluid was positive for AFB staining, Her endometrial sampling was sent for histopathology and microscopy but not positive for AFB. Baby did not show any signs/symptoms of congenital TB but prophylactic Isoniazide therapy was started to him along with injectable vitamin K. Although during LSCS intestines, omentum and peritoneal fluid appeared normal but presence in peritoneal fluid made it to think as primary peritoneal disease only. She had history of primary infertility but endometrial tissue was negative for it and she had conception without any treatment. She was Categorised as CAT-1 , extra pulmonary tuberculosis and , 2H₃R₃Z₃E₃+4H₃R₃ regimen was prescribed. Patient was discharged without any fever or ascitis on 15th postoperative day on continued AKT with DOT centre. Here H= Isoniazide, R=Rifampicine, Z=Pyrazinamide and E=Ethambutol. All our cases were weighing between 30-60 kilogram hence dosage were H-600mg, R-450mg, Z-1500mg and E-1200mg. all these drugs are safe in pregnancy and during breast feeding .The important drug which is contraindicated is Streptomycin.⁷

DISCUSSION

M. tuberculosis is transmitted by airborne droplet nuclei, which may contain fewer than 10 bacilli and humans are the only known reservoir for *M.*

tuberculosis. Individuals at high risk for *M. tuberculosis* infection in industrialized countries include close contact a patient with infectious TB, IV drugs abusers, migrant farm workers or homeless persons and individuals who may have occupational exposure to TB; individuals with immune-suppressing conditions like HIV or medication use, individuals with a history of inadequately treated TB, and infants. Chances that an individual acquires infection depend on the infectiousness of the index case, duration of the exposure, environment (crowding, poor ventilation), and virulence of the organism.^{3,4,5}

Atypical presentations and slow confirmation by culture often delay the diagnosis and treatment of patients with TB. Other reasons include an under use of tuberculin skin tests, misinterpretation of unusual chest X-rays, and waiting for culture results in patients with AFB-negative smears^{2,5}.

Pregnancy is not thought to change the course of tuberculosis, however, tuberculosis poses a risk to the pregnant woman and her fetus.¹ Diagnosis during pregnancy is delayed because the disease is frequently extrapulmonary with few symptoms. Although sites reported are pulmonary as well as laryngeal, pleural, cerebral, miliary, peritoneal, ileocaecal, skeletal or dermal.^{1,2,3,4,5} Diagnosis is usually require high degree of suspicion because of similarities of symptoms between TB and pregnancy like tachycardia, anaemia, raised ESR and low serum albumin level, as well as dissimilar parameters (like increase in weight during pregnancy and decrease due to TB, hypertension in the former and hypotension in the latter etc.) Under RNTCP, sputum examination done as per an algorithm is the preferred method for diagnosis of pulmonary TB. A chest skiagram (performed after shielding the abdomen) is done if all the 3 sputum smears are negative and symptoms persist despite giving antibiotics for 1-2 weeks. The presence of suggestive radiographic abnormalities and a medical officer's decision to treat with ATT labels the patient as a 'smear-negative' TB case⁷. A pregnant woman with extra-pulmonary TB has

constitutional and organ-affection symptoms. Routine haematology and Mantoux test (not commonly advocated in programme) along with investigations specific for the site are carried out for the establishment of specific diagnosis¹. Many patients with suspected pulmonary TB do not produce sputum spontaneously or are smear-negative for AFB. We could not obtain sputum sample positive in our patient even with hemoptysis. With the use of PCR, nucleic acid sequences unique to *M. tuberculosis* can be detected directly in clinical specimens with better accuracy and urgency than AFB smear and culture, respectively. Probes are used for rapid identification and maximizing cost effectiveness. Used alone or in combination with other identification methods, they serve as a substitute for biochemical testing and are also more accurate. Molecular tests in combination with "classic tests" can enhance the diagnostic ability particularly in pauci-bacillary infections and in patients with atypical presentations like ours.⁵ If proper and adequate chemotherapy is given to pregnant women with TB, they are not a higher risk than non-pregnant women with TB. Neither the disease nor chemotherapy is threatening to mother or newborn. However, today the ominous combination of human immunodeficiency virus, due to the influence of HIV, drug resistant TB and patient compliance and pregnancy poses a new challenge to obstetrocians^{1,3,5,6}

The incidence of TB is around 1-2% amongst hospital deliveries, especially in the under privileged sections of the society.⁶ Treatment should also be initiated when the probability is moderate-to-high. Although the drugs in the initial treatment regime cross the placenta, these concentrations do not appear to have harmful effect on the fetus^{1,5,6}. Pregnant women with TB should also be tested for HIV as there is a higher incidence of extrapulmonary TB and multidrug-resistant TB (MDR TB) in this set of patients. Though none of our patients were HIV positive.

Effective methods for prevention and treatment of the disease are available and inexpensive but still are not used appropriately in most parts of the developing world. The clinician caring for pregnant women should be aware of the risk factors for tuberculosis infection and disease and should test women and families according to risk.⁵ Patient compliance has to be good to ensure the success of the DOTS strategy. DOTS have emerged as one of the most reassuring tool to improve the challenging situation of pregnancy with TB.⁶

Early diagnosis and prompt treatment of Tuberculosis during pregnancy would give better results. Drug therapy in appropriate dosage has no major adverse effects on the offspring. Breast-feeding should be actively encouraged. Early ANC registration, intensive intrapartum monitoring and post partum surveillance, adequate rest and nutrition are crucial.

Breast feeding should not be discouraged in women being treated with first-line antituberculosis drugs because the concentrations in the breast milk are subtherapeutic and too low to produce toxicity in the nursing new born. The effect would likely be much lower if the mother breast feeds before taking the medication. Similarly, breast milk is also inadequate as a treatment option for TB or latent TB infection in newborns⁵. Close follow up of patients is essential since current therapy for TB infection is long and suboptimal. Role of Bacillus of Calmette-Guérin (BCG) vaccine in preventing TB in adults is debatable due to its variable efficacy (0–80%)^{1,5}. Its efficacy in prevention of tuberculous meningitis and miliary TB in young children has been easier to document than in adults or in the prevention of pulmonary TB in both children and adults⁴. In our as well as opinion of other authors², the most crucial step in managing TB in pregnancy is an early diagnosis. Obstetricians should be alert to this “old disease” in their daily practice. Screening of TB should be considered for the following groups of pregnant women: (A) patients

with symptoms suggestive of TB (B) patients with HIV infection (C) women who were in close contact with infectious TB patients, who visited high TB-prevalent areas recently without being screened for TB previously (D) patient having history of infertility.

CONCLUSION

A high index of suspicion and awareness of the rapid advances and innovations made in the diagnosis is required to recognize the changing face and disease spectrum of tuberculosis and initiate treatment for better outcomes. Atypical presentation may lead to misdiagnosis or a delay in diagnosis. Also the absence of systemic symptoms does not rule out TB. Radiological imaging, sputum smear, and PPD only aid in the diagnosis but a high degree of suspicion is required to ascertain an accurate diagnosis. Establishing an early diagnosis of TB infection and disease in a pregnant woman is important as it affects the health of both mother and infant.

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REFERENCES

1. Arora V K and Gupta R :TUBERCULOSIS AND PREGNANCY : *Ind J Tub*, 2003, 50, 13
2. GAO Xue-lian, Gyaneshwar_ R. An unusual presentation of tuberculosis in pregnancy *Chinese Medical Journal*, 2007, Vol. 120 No. 15 : 1378-1380
3. Song J Y , Park CW , Kee SY , Choi WS , Kang EY , Sohn JW. Disseminated Mycobacterium avium complex infection in an immunocompetent pregnant woman, *BMC Infectious Diseases* 2006, 6:154
4. Llewelyn M, Cropley I, Wilkinson RJ, Davidson RN. Tuberculosis diagnosed during

- pregnancy: a prospective study from London. *Thorax*. 2000 Feb;55(2):129-32
5. Maddineni M and Panda M ;Pulmonary Tuberculosis in a Young Pregnant Female: Challenges in Diagnosis and treatment , *Infect Dis Obstet Gynecol*. 2008; 2008: 628985
 6. Rao S B, Dalal SJ, Badhwar VR, Patil M; Tuberculosis in Pregnancy and the Impact of Directly Observed Therapy - Short Course (Dots) *Bombay Hospital Journal*. Volume 48 No. 02, April 2006
 7. Revised National Tuberculosis Control Programme; PPM Training Module for Medical Practitioners. Central TB Division, Directorate General of Health Services, October 2006 page 22.