



TUBERCULOUS MENINGITIS IN PREGNANCY-A RARE CASE REPORT

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ABSTRACT

Tuberculous meningitis is a rare and most severe form of Tuberculosis that too among immuno suppressed individuals. Pregnancy as such is an immunosuppressive state, thus providing more chance for reactivation of latent Tuberculosis. We present a case of 33 years female patient G4P1L1A2 with h/o 7 months of amenorrhea came with complaints of intermittent high grade fever and altered sensorium. After doing all investigations, patient was diagnosed to have Tuberculous meningitis ,hence started on ATT .MRI showed mild non obstructing hydrocephalus with periventricular seepage, so antiedema measures were given and External ventricular drainage done. Her general condition drastically improved and she spontaneously went in for labour within a week and delivered an alive, preterm female baby with good apgar. Postnatal EEG was normal.

KEYWORDS: Tuberculosis, meningitis, pregnancy.



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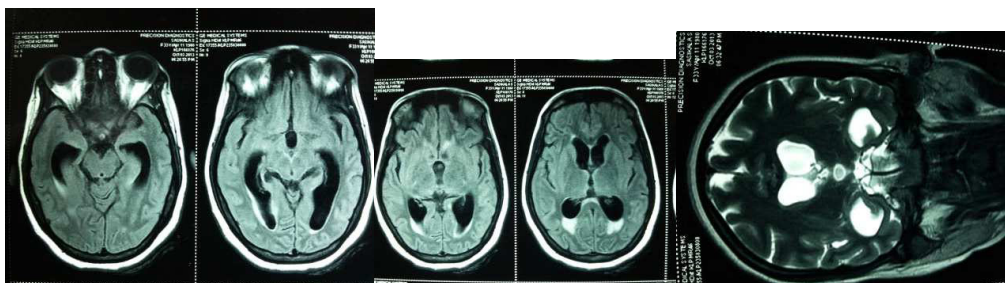
INTRODUCTION

Tuberculosis is found to be the third leading cause of death worldwide. It is more prevalent among women of reproductive age group compared to men of the same age¹. There were about 9.4 million new cases of TB in the year 2009 alone, out of which 1.7 million people died in the same year because of the disease, that shows there were about 4700 deaths per day on that year². Hence the incidence of TB in pregnancy ranges between 1-2% among hospital deliveries in tropics, that too in India. It is very much common among the lower socioeconomic group of people. However the exact incidence of TB Meningitis in pregnancy is not readily available due to a lot of confounding factors. Thus of all the manifestations of TB ,meningitis is the most serious and a very rare complication of pregnancy since most of the studies show only solitary cases^{3,4}. TB of CNS accounts for about 5% of extrapulmonary cases and manifests as meningitis or uncommonly as tuberculomas. Hence TBM patients usually present with headache, fever and meningeal signs such as neck rigidity, confusion, altered sensorium and lethargy. This case report highlights the case of a pregnant woman with h/o 7 months of amenorrhea presented with intermittent high grade fever and subsequently developed altered sensorium. Early suspicion of TBM was made and hence the patient was started on Anti-TB drugs which led to drastic improvement in the patient's general condition and maintenance of fetal viability.

CASE REPORT

Mrs.X, 33/F,G4P1L1A2, Previous LSCS with h/o 7 months of amenorrhea came with

complaints of intermittent high grade fever for the past two months and c/o burning micturition for the past 5 days for which she was already started on antibiotics in an outside hospital hence we continued with same antibiotics and antipyretic drugs until the investigation results arrived .She had a past h/o tuberculosis 13 years back for which she was treated. All fever investigations were found to be normal except for mild anemia and lymphocytosis. Two days later again the patient developed high grade fever with altered sensorium for which opinion obtained from neurophysician and neurosurgeon and Lumbar puncture was done, confirmed with TBM and patient was started on ATT .As her general condition was deteriorating, EEG done, showed B/L cerebral dysfunction .CT and USG were normal.MRI showed mild non obstructing hydrocephalus with periventricular seepage. Tiny focus of restricted diffusion with low apparent diffusion coefficient in the right hippocampus is a suggestive of acute infarct. No evidence of intracranial haemorrhage or space occupying lesion. Hence, antiedema measures given and external ventricular drainage done. Patient's general condition improved as well, hence she was discharged. After one week the patient presented to our og OPD with true labour pains and she was allowed for vaginal delivery after caesarian section (VBAC) and delivered an alive ,preterm, female baby, small for gestational age with good apgar score. Postnatal EEG was normal. So as per neurophysician's order patient was asked to continue ATT drugs and hence discharged.



MRI Pictures showing mild non-obstructing hydrocephalus with periventricular seepage.

DISCUSSION

TBM is the most severe forms of TB with high mortality and morbidity rates, especially among immunosuppressed individuals.⁵

Hence, pregnancy as such is an immune tolerant condition due to down regulation of the immune mechanisms providing way for opportunistic infections to occur.⁶ The diagnosis of TBM continues to be challenging because the cardinal features of TBM usually do not coexist, but occurs with variable frequencies. Meningeal signs are seen in 19-80% of cases, fever in 60-95% of cases and headache in 50-80% of cases, while focal neurological deficits occur in 5-20% of cases.^{7,8} Hence in immunosuppressed individuals, the typical triad of headache, fever and neck stiffness is present only in 15% of cases, whereas headache and fever coexists in 60% of cases.⁸ So the diagnosis of TBM in pregnancy is difficult since the complaints may initially thought to be constitutional and non-specific symptoms of pregnancy, hence easily dismissed. Moreover the weight loss due to TBM may be temporarily masked by the normal weight gain in pregnancy. Thus the down regulated Th1 lymphocyte surveillance and declining immune system contributes to the advancement of the disease in pregnancy.^{9,10} Hence frequent and consecutive pregnancies, as this case discussed above may promote reactivation of latent TB. In this case she presented with a history of intermittent high grade fever for 2 months, burning micturition for past 5 days and gradually developed altered sensorium within 2 days of admission. In addition to her symptoms her lab findings and imaging results were suggestive of TBM scoring

system¹¹. The CSF findings showed pleocytosis [>5 cells /micro litre], increased protein levels [>45 mg/dl] and decreased glucose levels [<45 mg/dl] all of which was the typical findings of TBM¹². Although the patient had symptoms of UTI, her urine routine and culture was found to be normal and her blood film showed a left shift and neutrophil toxic granulation, thus it was difficult to differentiate whether she had intercurrent UTI or TB dissemination as she was already started on antibiotics in outside hospital before urine and blood samples were collected. Osuntokun BO in his study of TBM in 194 Nigerians, states that AFBs were isolated in only 5-30% of Nigerian patients and therefore not surprisingly that this patients CSF was negative on the ziehl-neelsen stain of CSF sediment. The patient's Full blood count result showed lymphocytosis and mild anaemia, which also reflects poor general health and is frequently described in neurological diseases¹³. Hydrocephalus is the most common radiological finding of TBM and it occurs in about 40% of cases¹⁴ and cerebral infarcts accounts for 20% of cases¹⁴, as was in our case, which will end up in necrotising panarteritis, secondary thrombosis and vessel occlusion involving both small and medium sized vessels in the brain.

CONCLUSION

The immune tolerant state of pregnancy and TBM requires exploration and a high index of suspicion for TBM even for well trained clinicians. Hence early administration of Anti-TB drugs as an empirical therapy should not be delayed as it may help to improve the patients general condition and outcome even who presents with atypical features of TBM.

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