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Case Report

Leprosy in pregnancy, years after the eradication era

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ABSTRACT

Hansen disease or commonly known as leprosy, is a chronic bacterial infection caused *Mycobacterium leprae*. It affects skin, peripheral nerves and mucosa of the upper respiratory tract and eyes. Although Hansen's disease was eliminated as a public health problem globally in the year 2000 and in India by 2005 the reduction in number of new cases has been gradual with more than 10,000 cases being reported from countries like India, Brazil and Indonesia as per data reported in 2023. The true incidence of leprosy in pregnancy is not well reported in the post-eradication era.
We report a case of leprosy first detected in pregnancy.

Keywords: Leprosy, Hansen's disease, Pregnancy

INTRODUCTION

Leprosy in pregnancy is an often overlooked but clinically important condition, particularly in regions where the disease has been eradicated endemic. The physiological and immunological changes of pregnancy can alter the presentation and course of leprosy, sometimes leading to the onset of new disease or exacerbation of existing infection.[1] Subtle early signs, such as mild skin changes, hypopigmented patches with minimal sensory loss, or vague neuropathic symptoms, may be easily missed, especially when clinical reviews focus primarily on obstetric concerns. As pregnant women are frequently seen by obstetricians who may not routinely assess for dermatological or peripheral nerve abnormalities, maintaining a high index of suspicion is essential. Vigilance, careful skin and neurological examination, and timely referral can prevent delayed diagnosis, reduce complications, and improve outcomes for both mother and baby.

CASE REPORT

A 38-year-old elderly gravida, G_3P_{2002} presented with complaints of hypopigmented patches over her abdomen upper and lower limbs at 31 weeks period of gestation associated with reduced sensation over the affected areas.

On evaluation multiple well defined annular hypopigmented patches were found with erythematous borders on the above said areas as shown in Figure 1. No fungal elements were seen from the KOH mount prepared from the lesion. A skin biopsy was taken from the lesion showing dermis with perivascular, periadnexal and perineural inflammation in the dermis suggestive of borderline tuberculoid leprosy. A multidrug therapy was started as guided by the National Leprosy Eradication Programme comprising of rifampicin, clofazimine and dapsone.

She had no known comorbidities or any surgical history, her antenatal period was uneventful. Serial ultrasonography was done to assess fetal growth and Doppler velocimetry, which were within normal. Patient remained afebrile with symptomatic improvement of the above mentioned lesion with multi-drug therapy.

Patient had rupture of membranes at 38+4 weeks period of gestation followed shortly by onset of labour and delivered a female child weighing 3435 grams with APGAR of 8 and

9 at 1 and 5 minutes of life. The placenta was morphologically normal looking weighing 725 g.

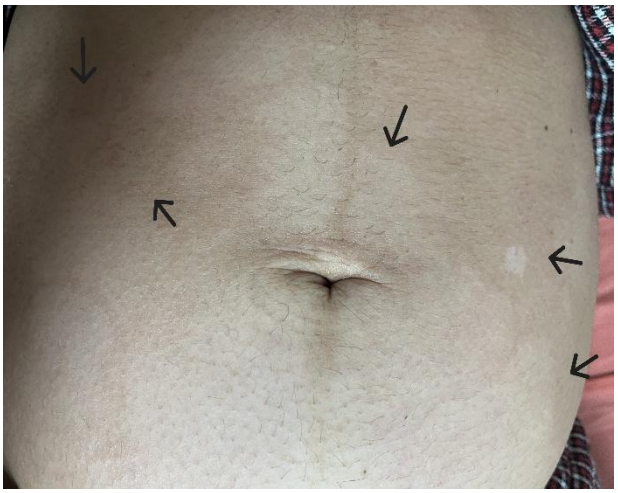

Figure 1: Multiple hypopigmented patches over abdomen.

DISCUSSION

Leprosy is eradicated in developed parts of the world however it continues to be disease of public health importance in many developing nations especially in South East Asian and African region. In India the prevalence of leprosy has reduce from 0.69 per 10,000 population (in year 2014-2015) to 0.45 in the year 2021-2022 with annual new case detection rate coming down from 9.73 (in 2014-2015) to 5.52 (from 2021-2022) per 100,000 population.[2] Most commonly affected age group include 5-15 years of age or more than 30 years.[3] Amongst all cases 39.5% are females and 5.6% were children.[4]

Encountering leprosy in pregnancy in 20 years post-eradication era is rare event. The first point of contact for antenatal women is with an obstetrician, who should be usually not well acquainted with the array of symptomatology of leprosy.

Various spectrums of symptoms in leprosy arise based on the immune response of the host. Either cell-mediated or humoral cell response is elicited by the host. Mycobacterium leprae doesn't respond to antibodies and results in a more severe manifestation (lepromatous leprosy) as compared to less severe response of T-cell mediated immunity (tuberculoid leprosy). Reduced immunity is associated with increased bacillary load and a more severe manifestation of the disease. Symptoms include generalized fatigue and fever. The spectrum of signs include hypoesthetic skin patches which could be hypopigmented or hyperpigmented and at later stages it may present as disability such as contractures, ulcers or muscle atrophy.[5]

Pregnancy is one factor that reduces immunity due to hormonal changes associated with pregnancy and alteration in cell mediated immunity causing leprosy to surface out, diagnosis the condition first time in pregnancy, or cause aggravation of symptoms or relapse.[6]

High index of suspicion is required on the part of health care worker for early identification of the lesions. Diagnosis can be confirmed by detecting bacteria on skin smears or diagnosis by histopathology. A skin smear negative for bacilli does not necessarily rule out the diagnosis as minimum of 104 organisms per gram of tissue are required for a positive test. A histopathology is sufficient for starting therapy, it has a sensitivity 49-70% of and specificity of 70-72% and is consider gold standard for diagnosis as per WHO.[7] In our case we made the diagnosis via histopathology.

Multidrug therapy stays the mainstay of treatment as in non-pregnant women; we started MDT in our patient at 31 weeks period of gestation and continued throughout intra-partum and postpartum period. It is a well-tolerated therapy. There were no maternal or fetal complications throughout the pregnancy and patient delivered an appropriate for gestational age baby.

CONCLUSION

A high index of suspicion is required for detecting the subtle presenting signs of leprosy especially in the post-eradication era. Early detection and treatment with WHO recommended multidrug therapy has no implications on maternal or fetal health. Multidrug therapy is safe during antenatal and postpartum period.

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