TUBERCULOSIS IN PREGNANCY

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SUMMARY

A retrospective study of 29 cases of tuberculosis in pregnancy was undertaken to analyse the presentation and management of the disease and associated perinatal outcome. The disease was diagnosed during pregnancy in 8 cases presenting with cough with expectoration and low grade fever and a radiological diagnosis made in every case. Treatment with multiple drug therapy was instituted or completed in every case. Significant findings were the high incidence of preterm deliveries (46.7%), low birth weight infants (less than 2.5 kg in 86.7%) and perinatal mortality (10%).

No infection in the history of mankind has caused as much morbidity and mortality as has tuberculosis. Inspite of the advent and institution of effective therapy with improved survival rates, tuberculosis still heads the list of serious infections in India.

While gynaecologists have been more involved with the relationship of genital tuberculosis with infertility and menstrual disturbances, tuberculosis complicating pregnancy remains a challenge largely overlooked. Conflicting views exist about the effect of pregnancy on the outcome of the disease ranging from opinions regarding deleterious effects to those reporting no change in prognosis.

A study was undertaken to assess the extent of the problem, the presentation and manifestations of tuberculosis during pregnancy and the treatment and associated obstetric outcome.

MATERIALS AND METHODS

A retrospective study of 11,074 deliveries at the Nowrosjee Wadia Maternity Hospital over one year (June 1990 to May 1991) was undertaken to identify

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tuberculosis associated with pregnancy. Twenty nine women were diagnosed to have tuberculosis in the current pregnancy giving an incidence of 0.2%. The patient's antenatal records, details of medical evaluation and treatment and perinatal outcomes were analysed.

RESULTS AND ANALYSIS

Time and mode of presentation and diagnosis

A pre-pregnancy diagnosis of tuberculosis was established in patients who conceived on antikoch's therapy which was then continued through pregnancy. An early first trimester diagnosis was made in 7 cases and 11 cases were diagnosed in the second and third trimester (Table I).

Of the 18 cases diagnosed during pregnancy, 7 presented with cough with expectoration and low grade fever, 4 with haemoptysis and 2 with chest pain. Five patients had no pulmonary symptoms, but were noted to he cachexic with significant weight loss. The diagnosis was suspected on clinical examination (Table II).

Radiological diagnosis was made in every case with a majority of patients (51.7%) reported to have cavitation with fibrosis, cavitation alone (17.2%), pleural effusion and hilar lymphadenopathy (10.3% each). The diagnosis of tuberculous meningitis and tuberculosis of spine had been made in the pre-pregnant state (Table III). Adequate precautions were taken to shield and protect the gravid uterus during the radiological procedures.

Table I

Time of Diagnosis of T.B.

Diagnosis	No.	Percent
Pre-pregnancy	11*	37.9
1st trimester diagnosis	7	24.2
IInd & IIIrd trimester diagnosis	11	37.9

* Conceived on AKT

Management of tuberculosis in pregnancy

Twenty two (75.8%) of our patients were treated with INH, Rifampicin and Ethambutol. Five patients (17.2%) were treated with the above drugs with an addition of Pyrazinamide and two patients (6.8%) were treated with INH and Rifam-

Table II

Clinical Presentation of cases diagnosed in pregnancy

Presentation	No. of cases
Cough with expectoration and low grade fever	7
Asymptomatic	5
Haemoptysis	4
Chest pain	2

Table III

Diagnostic Features

Radiological findings	No.	%
Cavitation fibrosis	15	51.7
Cavitation	5	17.2
Pleural effusion	3	10.3
Hilar lymphadenopathy	3	10.3
Miliary TB	1	3.4
TB Meningitis	1	3.4
TB Spine	1	3.4

picin only (Table IV). The selection of a particular regime depended upon the severity and was administered as directed by the attending physician. Supplementary Pyridoxine was given to all patients.

All patients had fortnightly antenatal followups assessing symptoms, weight gain and general well-being. Liver function tests were performed every four weeks to monitor potential hepatotoxicity.

Reactivation (FLARE UP) of previously treated tuberculosis occured in one case. A primigravida presented with haemoptysis at 24 weeks gestation having been treated for tuberculosis 2 years earlier. Radiology revealed an old healed pulmonary lesion with extensive fibrosis. On antikochs therapy she improved considerably and went on to deliver twins at 32 weeks gestation.

Table IV

Drug Regimes in Management

Drugs	No. of Patients	%
INH + RMP + ETH	22	75.8
INH + RMP + PZ + ETH	5	17.2
INH + RMP	2	6.8

SM not given because of ototoxicity

RMP - Rifampicin
PZ - Pyrazinamide
ETH - Ehtambutol

Obstetric and Perinatal Outcome

While twenty eight patients had normal/instrumental vaginal deliveries. The single caesarean section was performed for breech presentation in a primigravida using spinal anaesthesia.

Preterm births were recorded in 46.7%. Of the fifteen deliveries at term 73.3% weighed less than 2.5 kgs. This suggests a significant relationship between tuberculosis and preterm/low birth weight births.

Perinatal mortalities occured in three

Table V

Perinatal Outcome

Type of birth	No.
Live births	27
Fresh still births	2
Macerated still births	1
Total Perinatal loss	3 (10%)

Table - VI

Birthweight distribution

Type of birth	Birth weight in gms			
	< 2000	2000-2500	2500/more	Total
Preterm	12	2	0	14
Term	3	8	4	15
Post term	0	1	0	1
Total	15	11	4	

cases all weighing less than 2 kgs, the fresh still births resulting from severe birth asphyxia.

DISCUSSION

Due to a high prevalence of tuberculosis in our patient population it is important to suspect the disease in cases with chronic or protracted fever even during pregnancy.

Management of the disease during pregnancy poses unique problems. While the safety of drug therapy in relation to teratogenicity and toxicity is important, multiple drug regimens have to be selected according to the severity and site of the disease and sensitivity of the micro bacteria (Deshmukh et al, 1964). Streptomycin is best avoided because of a proven relationship to ototoxicity and vestibular impairment. Rifampicin may have an association with limb deformities action when administered in the first trimester (Schaefor et al 1975). There were no congenital birth defects recorded in our series. General consensus exists in treating tuberculosis in pregnancy, with Isoniazide, Rifampicin and Ethambutol being the commonest used regime in our study.

There seems to be a role for Isoniazide prophylaxis in patients previously treated for tuberculosis to avoid a reactivation of a quiescent lesion (Snider). The antenatal flare up of tuberculosis in one case may have been prevented by INH prophylaxis.

A significant corelation was recorded with tuberculosis in pregnancy and preterm and low birth weight babies (ICMR 1959). Earlier diagnosis, effective therapy and intensive antenatal care and surveillance could help improve perinatal outcome.

Isolation of the neonate is mandatory only in sputum AFB positive cases with breast feeding encouraged in mothers considered non infective (Sokand 1964). Neonatal INH prophylaxis is recommended when mothers are yet to complete antikoch's therapy and in openly infective cases. BCG vaccination is administered at birth or on completion of neonatal INH prophylaxis since the vaccine is not INH resistant (Avery & Wolfsdorf 1968).

Contraception is recommended to space the next pregnancy by at least 2 years. As Rifampicin reduces the effectiveness of low dose oral contraception, an intrauterine contraceptive device or a high dose oral contraceptive are recommended (Reimers 1974).

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