



MATERNAL AND FETAL OUTCOMES IN FEVER COMPLICATING PREGNANCY BEYOND 32 WEEKS OF GESTATION

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ABSTRACT

To identify the relationship between the fever complicating pregnancy beyond 32 weeks of gestation and its maternal and fetal outcomes. A semi structured proforma entailing a detailed history and examination were done among 100 antepartum mothers with fever for ≥ 2 days, beyond 32 weeks of gestation. Pneumonia was the major causation of fever (21%). The majority of the participants (72%) had a fever duration of less than 5 days and experienced high grade fever(82%). High grade fever was associated with urinary tract infection and pneumonia was associated with premature rupture of membranes. Fever of less than 5 days was associated with premature rupture of membranes and NICU admissions.

KEYWORDS : fever during pregnancy, upper respiratory tract infection, maternal outcomes, fetal outcomes

INTRODUCTION

Fever during pregnancy is considered to have far-reaching effects on both maternal and fetal outcomes.(Edwards M., 2006) Maternal complications associated with fever during the antenatal period include post-operative wound infection, post-partum haemorrhage, pneumonia, septicaemia, jaundice, hypoglycaemia, and other complications specific to the cause.(Biswas et al., 2015) Adverse fetal outcomes associated with fever during pregnancy include low birth weight, intrauterine growth retardation, preterm delivery, neonatal sepsis, perinatal mortality, neonatal seizures, poor APGAR score at birth, need for resuscitation after delivery, intra ventricular hemorrhage, periventricular leukomalacia, and cerebral palsy.(Sultan et al., 2020)

This study was undertaken to fulfill the dearth of literature on the effects of antenatal fever on maternal and fetal outcomes in the southern part of Tamil Nadu, India

MATERIAL AND METHODS:

A prospective observational study, where 100 antenatal mothers visiting the both out-patient and in-patient departments of obstetrics and gynaecology were recruited. Antenatal mothers beyond 32 weeks of gestation with fever for ≥ 2 days were recruited. Antenatal mothers with immunocompromised states and chronic medical conditions were excluded. The semi-structured proforma involving a detailed history and examination was carried out. Maternal complications and fetal outcomes of the participants were assessed on follow-up. SPSS version 17 was used for statistical analysis. Test results were considered statistically significant when the p-value was <0.05 . All statistical tests were two-tailed.

RESULTS

Among participants, 65% were primi and most of them were 18 to 25 years. The majority of the mothers (67%) had crossed term i.e., 37 weeks of gestation. Among them 72% had fever less than 5 days duration and had high grade fever(82%)Among the causes of fever, pneumonia was the major causation of fever (21%) followed by urinary tract infection (18%). The participants with a duration of fever of less than 5 days were significantly associated with premature rupture of membranes ($\chi^2 = 3.821$; $p = 0.051$) and NICU admissions ($\chi^2 = 22.18$; $p < 0.0001$).

Table 1. Association between Duration of fever and maternal and fetal outcomes

Maternal and fetal outcomes	Duration of fever (<5 days)	Duration of fever (≥ 5 days)	$\chi^2(p)$	p value
Premature rupture of membranes (n=23)	16 (70%)	7(30%)	3.821	0.051
NICU admission (n=48)	31(65%)	17(35%)	22.18	<0.0001

Fever of high grade was significantly associated with presence of urinary tract infection ($\chi^2 = 2.3$; $p = 0.043$) and pneumonia ($\chi^2 = 2.01$; $p = 0.05$). Fever of high grade was significantly associated with premature rupture of membranes ($\chi^2 = 5.7$; $p = 0.017$).

Table 2. Association between maternal complications and grade of fever

Maternal complication	Low grade fever	High grade fever	χ^2	p value
Premature rupture of membranes (n=23)	8(35%)	15(65%)	5.7	0.017
Puerperal sepsis (n=8)	0	8(100%)	1.9	0.167
LSCS rate (n=34)	5(15%)	29(85%)	0.37	0.538
Forceps delivery (n=5)	2(40%)	3(60%)	1.72	0.189
Ventilatory support (n=5)	0	5 (100%)	1.15	0.282
Preterm labour (n=12)	1(8%)	11(92%)	0.863	0.353

Fever of both low grade and high grade were not significantly associated with fetal adverse outcomes such as intrauterine death ($\chi^2 = 1.44$; $p = 0.23$), need for NICU admissions ($\chi^2 = 1.892$; $p = 0.169$), meconium stained liquor ($\chi^2 = 0.364$; $p = 0.546$), neonatal sepsis ($\chi^2 = 1.45$; $p = 0.275$), and ventilatory support ($\chi^2 = 0.195$; $p = 0.339$). A total of 81% of the mothers experienced one of the various adverse maternal outcomes. Around 30% of neonates born to mothers with antenatal fever did not require NICU admission.

DISCUSSION:

Premature rupture of membranes was significantly associated with high grade fever in this study which is similar to the findings by Jain et al.,(Jain et al., 2013) Dior et al., studied high grade ($\geq 39^\circ\text{C}$) intrapartum fever and adverse obstetric and neonatal outcomes, which showed an increased risk of puerperal sepsis and low APGAR scores, NICU admissions which is similar to the current study.(Dior et al., 2016) Among the babies who required NICU admission, 56% had low APGAR scores at 5 minutes of birth. The study was limited by its sample size due to the duration and the design.

CONCLUSION:

Respiratory tract infections (especially pneumonia) were the most common cause of fever during pregnancy. Fever during pregnancy was associated with premature rupture of membranes and NICU admissions.

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