

Puerperal Pyrexia in a Tertiary Level Hospital

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Puerperal sepsis is one of the leading causes of preventable maternal mortality and morbidity. Delay in detection and treatment may lead to obstetric shock and even death. Multiple pelvic examinations during home trial were done in 20% of cases. Percentage of other risk factors were prolonged labour 10%, premature rupture of membrane 8%, obstructed labour 5%, eclampsia 5%, chorioamnionitis 2% and 1% case no risk factors were detected. Eighty percent patients were improved with medical treatment especially with antibiotics. In case of wound infection, secondary suture was needed in 15% of cases. Breast engorgement is the most common cause of postpartum pyrexia. Endometritis, wound infection, urinary tract infection are also quite common. Prepregnancy and antenatal care, hospital delivery or delivery by skilled birth attendant, good quality health services in the referral centers, careful monitoring with important advice during postpartum period can prevent considerable proportion of postpartum pyrexia.

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Introduction

Social & medical progress in 20th century has eliminated many of dangers of childbearing. South Asia is the region of 22% of World population, accounts for 50% of World's maternal death. The technology to save women's lives and prevent their disability is available today, yet in every two minutes, somewhere in South Asia women die as a result of complications arising from pregnancy and childbirth, 40 women suffer from painful and permanent disability.

Expert from around the world acknowledge, however that almost all maternal deaths

could be prevented if all women were cared for by a professional health worker (midwife, nurse, doctor) with the midwifery skills in the most critical period during and immediately after childbirth. Having a health worker with midwifery skills present at childbirth, backed up by transport in case of emergency referral if required, is perhaps the most critical intervention for making motherhood safer.¹ Much attention has been focused on prenatal care for preventing maternal mortality. But very few studies have examined postpartum care, even though over half of all maternal death occurs in the postpartum period.²

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In developing countries, maternal mortality was referred to as 'a neglected tragedy' in 1985³. The lack of attention to postpartum care in developing countries is another neglected tragedy, and requires immediate attention.

This study focuses on incidence; causes and outcome of puerperal pyrexia of hospital admitted cases. The study also aims at identification of important risk factors and measures to be taken for the prevention of postpartum pyrexia.

Methodology

This is cross sectional study was carried out Sir Salimullah Medical College and Mitford Hospital. One hundred randomly selected patients who developed postpartum pyrexia. Maternal age: 15 years to 45 years, Gestational age: ≥ 37 weeks and Fever ($\geq 100.4^{\circ}\text{F}$) after 24 hours of delivery were included and all home delivery cases were excluded in this study. Detailed history with special attention to indication of cesarean section, amplitude and duration of puerperal pyrexia were taken from each patient; then to identify possible causes and risk factors, detailed obstetric history regarding last issue and thorough clinical examination was performed. According to specific clinical symptom and sign laboratory, investigations were done which are available in hospital. Then according to causes and risk factors the patients were managed with due attention. The incidence, causes, risk factors and outcome of postpartum pyrexia were noted thoroughly and were evaluated in tabulated form and analyzed by statistical method.

Results

The incidence of postpartum pyrexia was 8.75% in 200 years (Table II) Among the patients with postpartum pyrexia, 80% had 100.4°F - 102°F of temperature and 20% had

$>102^{\circ}\text{F}$ of temperature (Table III). Among the patients with puerperal fever, 42% had breast engorgement, 30% had wound infection, 13% had urinary tract infection, 10% had puerperal sepsis, 2% had respiratory tract infection and 3% had other medical disorders (Table IV). It was observed that, 45% patients were anemic and 4% was obese. Multiple pelvic examinations during home trial were done in 20% of cases. Percentage of other risk factors were prolonged labour 10%, premature rupture of membrane 8%, obstructed labour 5%, eclampsia 5%, chorioamnionitis 2% and 1% case no risk factors were detected (Table-5). Eighty two percent patients were improved with medical treatment especially with antibiotics. In case of wound infection, secondary suture was needed in 15% of cases. Post-partum hysterectomy was done in 1% of cases due to sepsis. 2% patients were referred to other departments (Table-6). Seventy eight percent of babies of patients with post partum pyrexia were healthy, 10% had jaundice (pathological), 5% were infected, 5% were dead due to consequences of birth asphyxia and 20% had other problems as minor skin infections, conjunctivitis (Table-7).

Table I: Demographic characteristics of the study population

Age	No	%
Less than 18 years	05	05%
18 to 30 years	75	75%
More than 30 years	20	20%
Gravida		
Primi	60	60%
Less than 4	30	30%
More or equal 4	10	10%
Mode of delivery		
S.V.D	05	05%
L.U.C.S	95	95%
Socioeconomic status		
Low	90	90%
Average	06	06%
High	04	04%

Table II: Incidence of post-partum pyrexia (n=100)

Mode of delivery	No	%
Total no of delivery (SVD & C/S) in 1 year	4684	
Appearance of post-partum pyrexia	410	8.75%

Table III: Distribution of temperature (⁰F) of the patients (n=100)

Temperature	No	%
100.4 ⁰ F-102 ⁰ F	80	80%
>102 ⁰ F	20	20%

Table IV: Distribution of causes of post-partum pyrexia (n=100)

Causes	No	%
Puerperal sepsis	10	10%
Wound infection	30	30%
Urinary tract infection	13	13%
Breast engorgement	42	42%
Respiratory tract infection	02	02%
Others (medial disorder)	03	03%

Table V: Distribution of risk factors (n=100)

Risk factors	No	%
Anaemia	45	45%
Obesity	04	04%
Multiple pelvic examination (During home trail)	20	20%
Eclampsia	05	05%
Prolonged labour	10	10%
Obstructed labour	05	5%
Premature rupture of membrane	08	8%
Chorioamnionitis	02	2%
Not identifiable	01	01%

Table VI: Outcome of the patients with post-partum pyrexia (n=100)

Outcome	No	%
Improved with medical treatment	82	82%
Post partum hysterectomy due to sepsis	01	1.0%
Secondary suture	15	15%
Referred to other departments (medicine, surgery)	02	02%

Table VII: Outcome babies of patients with post-partum pyrexia (n=100)

Condition	No	%
Well	78	82%
Infection (of any kind)	05	5%
Jaundice (pathology)	10	10%
Patients death	05	5%
Others problems	02	02%

Discussion

This study was conducted in Sir Salimullah Medical College Hospital which is one of the largest tertiary hospital where a large number of patients (particularly from lower socio-economic condition) seek admission for management. A total of 100 patients were randomly selected who delivered either by vaginal rout or by cesarean section.

Regarding age distribution of patients about 75% were of 18-30 years of age. Only 5% were aged below 18 yrs and 20% were above 30 yrs. The study by Dr. Shoyela Shahnaz in Dhaka Medical College Hospital (DMCH) showed the number of number of patient between 18-30 yrs of age group were 79.3% and only- 17.3% were above 30 years.⁴ In this study, table-IX shows only 1 woman was undergone postpartum hysterectomy due to sepsis and she was 35 years old.

According to parity, 60% of the patients with postpartum pyrexia were primi 10% were grand multipara. About 30% were in between the above tow groups. In Shoyela's study the percentage were 45.7%, 25% and 29.33% respectively.⁴

In this study 90% patients were of low socioeconomic status. All infections in postpartum period are common in this group of people. In America, puerperal infectious morbidity affects 28% of pregnant women and it is more common in those of low socioeconomic status.⁵ The percentage of average and high socioeconomic status are

6% and 4% respectively.

Among 100 patients with postpartum pyrexia 5% were delivered vaginally and 95% were delivered by cesarean section. In this study 60% patients were primi (table-II) and most of them were undergone cesarean section. In a study in Madras from 1997-1999, the total cesarean rate in a tertiary level hospital was 32.6% and the primary cesarean rate was 25%. Puerperal sepsis, wound infection, urinary tract infection, respiratory tract infection are mostly occur in patients with cesarean section due to several risk factors which will be mentioned later.

Incidence of postpartum pyrexia is 8.75% whereas it is 9.2% in DMCH in Shoyela's study in 2000 year⁴ and it is 7.7% in a tertiary level hospital in India in 2001.⁶ Therefore, the incidence is still high in this country.

In this study it was observed that, 80% patients had temperature 100.4°F-102°F and 20% patients had temperature more than 102°F. Patients with breast engorgement (42%) usually had temperature 101°F and it appeared in 3rd or 4th postoperative day. The temperature was raised upto 102°F in patients with wound infection (30%) 4th to 5th postoperative day. 102°F-103°F of temperature was observed in Patients with p (10%). Variable temperature was observed in cases of urinary tract infection and respiratory tract infection. In cases of medical disorder especially in enteric fever or malaria temperature was raised 102°F-104°F.

In this study it was observed that, breast engorgement is responsible for 42% of postpartum pyrexia; but fever due to this cause did not persist for longer period. It occurred commonly in primigravida. 30% of postpartum pyrexia occurred due to wound infection. In America only 4-12% of patients with cesarean section have wound infection.⁵

In this study it was noticed that, wound infection are more common in patients with obstructed labor with failed home trial, premature rupture of membrane, chorioamnionitis, eclampsia and Staphylococcus, E. coli, Pseudomonas were commonly detected. Urinary tract infection is responsible for 13% of postpartum pyrexia; whereas in America it is only 2-4%⁸ and in India it is only 1-5%⁷. E-Coli was commonly detected organism. About 10% of woman had puerperal sepsis. Previously puerperal sepsis was the main cause of postpartum pyrexia. Now- a days this incidence is reduced due to use of broad spectrum antibiotics and restricted per vaginal examination. Group A and Group B streptococci are widespread and may cause sepsis and important lifelong morbidity or mortality of the newborn. Obstetricians today try to establish cost effective prophylactic measures during labor to prevent these neonatal infections.⁹ Only 2% women had respiratory tract infection. Now- a- days General anesthesia is not used frequently, therefore this percentage is not so high. Among medical disorders only 2 women was diagnosed as a case of enteric fever (after confirmation by widal test) and 1 woman was diagnosed as a case of malarial fever (after confirmation by peripheral blood film). These patients were treated after consultation with medicine specialist

In this study it was observed that 45% patients were anemic. Among them only 5% were severely anemic due to pregnancy and delivery complications and were treated by blood transfusion. 40% patients were moderately anemic. In Shoyela's study 42% patients were moderately anemic.⁴ Anemic patients are prone to any kind of infection. Multiple pelvic examination without aseptic precaution especially during home trial is one of the risk factor in 20% patients. Almost all of them undergone cesarean section due to obstructed labor (5%), prolonged labor (10%),

chorioamnionitis (2%), fetal distress (3%). Puerperal sepsis, wound infection, urinary tract infection were common in these patients. Percentages of other risk factors are premature rupture of membrane (8%), obesity (4%), eclampsia (5%). In 1%, case no risk factor was identified.

In this study it was observed that 82% patients were improved with correction of anemia, appropriate antibiotics (after culture sensitivity test of wound swab, high vaginal swab and urine), blood transfusion, improved diet, daily dressing (in case of slight oozing from incision site), daily vaginal wash with povidone iodine (in case of puerperal sepsis). Among 30% case of wound infection secondary suture was needed in 15% cases. Only 1 women had total Abdominal hysterectomy due to puerperal sepsis. During laparotomy, it was found that, incision site of uterus was necrosed and there was adhesion of intestine the mesentery with uterus. 2% patients were referred to medicine department, because fever did not disappear after proper antibiotic therapy

Regarding outcome of babies of patients with postpartum pyrexia. 78% babies were well, 5% of them had infection and were treated by antibiotic therapy, 10% of them had neonatal jaundice; phototherapy was needed in 5% cases. 5% perinatal death occurred as consequences of birth asphyxia and infections. 2% had other problems such as, skin rashes with pustules, conjunctivitis.

Survey conducted in Western countries show causes of postpartum pyrexia from higher to lower frequency are endometritis, wound infection, urinary tract infection. Breast engorgement is also quite common. In our country thrombophlebitis is rare condition. In my study, no case of thrombophlebitis was found.

Conclusion

Although considerable attention has been given to maternal mortality, very little concern has been expressed for maternal morbidity. It has been estimated that for one maternal death at least 15 more suffer from severe morbidity. Postpartum pyrexia is one of the conditions which causes maternal morbidity. Breast engorgement is the most common cause of postpartum pyrexia. Endometritis, wound infection, urinary tract infection are also quite common. Prepregnancy and antenatal care, hospital delivery or delivery by skilled birth attendant, good quality health services in the referral centers, careful monitoring with important advice during postpartum period can prevent considerable proportion of postpartum pyrexia. Given that the preponderance of maternal morbidity during postpartum period, it is surprising that postpartum care has received so little attention compared with antenatal and intrapartum care. We believe that safe motherhood program should not neglect this crucial period in their planning for training, continuing education and allocation of resources. Research is need on the impact of postpartum home visit or postpartum morbidity and mortality. Better birth initiative could dramatically improve obstetric care quality, if health care provider changes what they do with respect to a small number of routine practices.

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