International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Porwal S et al. Int J Reprod Contracept Obstet Gynecol. 2018Apr;7(4):1406-1410
www.ijrcog.org

pISSN2320-1770 | eISSN2320-1789

DOI: http://dx.doi.org/10.18203/2320-1770.ijrcog20181325

Original Research Article

Analysis of clinical profile of women presenting with pyrexia in pregnancy

Surabhi Porwal, Amita Sharma*

Department of Obstetrics and Gynecology, Gandhi Medical College, Bhopal, Madhya Pradesh, India

Received: 11 March 2018
Accepted: 17 March 2018

***Correspondence:**
Dr. Amita Sharma,
E-mail: dramita99@gmail.com

ABSTRACT

Background: Pyrexia in pregnancy is major public health problem in India. Pyrexia in pregnancy is associated with resorption of the embryo, foetal deaths and potentially lethal malformations such as central nervous system defects, abdominal-wall defects, and cardiovascular malformations. This study was carried out to analyse clinical profile of women presenting with pyrexia during pregnancy.
Methods: After approval by institutional ethical committee the prospective case control study was conducted in the department of obstetrics and gynecology, NSCB Medical College, Jabalpur (M.P.) from 1st June 2012 to 31st October 2013. Total 100 antenatal women with pyrexia taken as cases and 50 antenatal women without pyrexia taken as control were included and analyzed in this study. In women fulfilling inclusion criteria detailed history was taken and documented in proforma. Required investigations were sent to the department of pathology and virology laboratory of Indian Council of Medical Research, Jabalpur. Results were analyzed statistically by using t test and chi square test.
Results: On analysis of clinical symptoms pyrexia, cough, malaise, rash, headache, nausea and vomiting, joint pain, anorexia, breathlessness and burning and frequency of micturition were significantly higher in cases as compare to control. Viral pathogens were responsible for most of the cases of pyrexia in pregnancy.
Conclusions: Pyrexia in pregnancy is a high-risk situation, early identification and prompt treatment will reduce maternal and perinatal morbidity and mortality associated with pyrexia in pregnancy.

Keywords: Clinical profile, Micturition, Pyrexia in pregnancy

INTRODUCTION

Fever has been recognized as a cardinal manifestation of disease since ancient times as recorded by ancient scholars like Hippocrates.[1]

Getting pregnant and carrying a baby in the womb for nine whole months is an exciting experience for most women. Pregnancy is a period associated with a number of reversible physical changes to accommodate the demands of a developing foetus. During their antenatal period they might be suffering from many problems and pyrexia is one of the common problem. Pyrexia during pregnancy poses short and long-term physiological challenges to the well-being of both the mother and foetus.

Pyrexia was well known to the ancients as an important manifestation of illness, but it remained for Modern Medical Science to provide a better understanding of the significance of body temperature variations in health and diseases. Seen first as a disease but later recognized as an accompaniment to a variety of diseases entities. Pyrexia is an easily noted and reliable marker of illness.[2] Wonderlich in 1868 clearly established that abnormality of temperature was a Cardinal sign of diseases and

normality a sign of health.[1] Since then physicians have used pyrexia as a reliable guide to the presence of disease and the response of disease to therapy. It is in the diagnosis of a febrile illness that the science and art of medicine come together.[3]

This study was carried out to analyse clinical profile of women presenting with pyrexia during pregnancy.

METHODS

This study was a prospective case control study carried out in the department of obstetrics and gynaecology NSCB Medical College, Jabalpur, during the period from 1st June 2012 to 31st October 2013.

A total 100 Antenatal women with pyrexia within 1 month of reporting to antenatal outpatient department and labour room of Obstetrics and Gynaecology Department and 50 women without pyrexia were included and analyzed in this study.

Detailed history of each case and control was taken regarding name, age, address, socioeconomic status, literacy, obstetric history, menstrual history and documented in proforma and required investigations were sent to the department of pathology and virology laboratory of Indian Council of Medical Research, Jabalpur. The reports of investigations were collected and analyzed.

Statistical analysis

All the proforma were entered using Microsoft 2007 Excel worksheet. Results were analyzed statistically by using t test and chi square test.

RESULTS

In present study, 100 cases and 50 controls were included and analysed. Majority of the cases (49%) and control (46%) were observed in age group of 21- 25 years. The mean maternal age of case was found to be 24.59±4.35 (18-39 years) and in control 24.5±3.74 (19-35 years).there was more ANC visit in control group (82%) compared to cases (37%) and the difference was statistically highly significant(p<0.0001) (Table 1).

Table 1: Distribution of cases according to age group.

Age group (in years)	Frequency	
	Case (n=100)	Control (n=50)
≤20	18 (18%)	8 (16%)
21-25	49 (49%)	23 (46%)
26-30	23 (23%)	16 (32%)
31-35	7 (7%)	3 (6%)
>35	3 (3%)	0 (0%)

t= 0.10, p>0.05

In cases 53% belonged to rural area and 47% belonged to urban area while in control group 48% belong to rural area and 52% belong to urban area the difference was not statistically significant (p>0.05). In cases 33% pregnant women had no formal education, 18% educated up to primary class and intermediate, followed by 16% up to high class and 15% up to middle class.

However, in control group 42% pregnant woman educated up to primary school, 38% up to middle school followed by 14% had no formal education and 6% up to high school.

Table 2: Distribution of cases according to different variables.

Variable		Case (n=100)	Control (n=50)	Chi square	p-value
Booking status	Booked	37 (37%)	41 (82%)	27.04	<0.0001
	Unbooked	63 (63%)	9 (18%)		
Locality	Rural	53 (53%)	24 (48%)	0.33	>0.05
	Urban	47 (47%)	26 (52%)		
Education	Illiterate	33 (33%)	7 (14%)	Fisher's exact-0.33	>0.05
	Primary	18 (18%)	21 (42%)		
	Middle	15 (15%)	19 (38%)		
	High school	16 (16%)	3 (6%)		
	Intermediate	18 (18%)	0		
Past medical history		24 (24%)	0	14.29	<0.0001

In 24% cases some past medical history reported while in control there was no past medical history. The difference between cases and control was highly significant (p<0.0001) (Table 2).

Analysis of clinical symptoms of cases and control showed that pyrexia was the presenting symptoms in all cases, 91% cases present as pyrexia with chills and 9% cases present as pyrexia without chills.

Among associated symptoms malaise was the commonest symptom in 70% of cases, second commonest associated symptom was nausea and vomiting 69% cases, followed by third commonest associated symptom was cough 54%.

Table 3: Distribution of the cases according to clinical symptoms.

Symptoms	Case (N=100)	Control (N=50)	Chi square	p-value
Pyrexia with chills	91 (91%)	0 (0%)	115.68	<0.0001
Pyrexia without chills	9 (9%)	0 (0%)	4.79	<0.05
Cough	54 (54%)	5 (10%)	27.04	0.0001
Sore throat	19 (19%)	5 (10%)	2.01	0.156
Coryza	15 (15%)	3 (6%)	2.56	0.110
Malaise	70 (70%)	4 (8%)	51.26	0.0001
Rash	8 (8%)	0%	4.22	0.040
Headache	45 (45%)	5 (10%)	18.37	0.0001
Nausea/ vomiting	69 (69%)	11 (22%)	29.58	0.0001
Joint pain	8 (8%)	0%	4.22	0.040
Patechiae	5 (5%)	0%	2.58	0.108
Anorexia	47 (47%)	3 (6%)	25.21	0.0001
Breathlessness	14 (14%)	0%	7.72	0.005
Conjunctivitis	0%	0%		
Burning /Frequent micturition	17%	0%	9.58	.002
Diarrhea	7 (7%)	2 (2%)	0.53	0.466

Pyrexia, cough, malaise, rash, headache, nausea, joint pain, anorexia, breathlessness and burning and frequent micturition were significantly higher in cases as compared to control (Table 3).

Table 4: Distribution of cases according to duration of pyrexia.

Duration of fever (days)	Frequency, Case (n=100)
<3	12 (12%)
3-6	41 (41%)
7- 9	27 (27%)
>9	20 (20%)

In 41% cases duration of fever was 3- 6 days followed by 7-9 days in 27% cases, greater than 9 days in 20% of cases and less than 3 days in 12% of cases (Table 4).

Table 5: Correlation of pyrexia with anemia.

Haemoglobin	Cases (n= 100)	Control (n= 50)
Normal	0	23 (46%)
Mild	32 (32%)	24 (48%)
Moderate	44 (44%)	3 (6%)
Severe	24 (24%)	0

Chi square=75.65, p <0.0001

All 100% cases were anaemic of which 32% were mild anaemic, 44% moderate and 24% severely anaemic while in the control group 54% patients were reported anaemic of which 48% were mild and 65% patients were moderately anaemic and difference of anaemia status between cases and control was recorded statistically highly significant (p<0.0001) (Table 5).

Table 6: Distribution of cases according to clinical sign.

Clinical signs	Case	Control	Chi square	P value
Lymphadenopathy	1 (1%)	0%	0.503	0.478
Clear nasal discharge	12 (12%)	3 (6%)	1.33	0.248
Liver	4 (4%)	0%	2.05	0.152
Spleen	3 (3%)	0%	1.53	0.216
Oedema	17 (17%)	0%	9.58	0.002
Type of oedema				
1	13	0		
2	2	0		
3	2	0	-	-

Analysis of clinical sign of cases and control showed that lymphadenopathy was observed in 1% cases, clear nasal discharge was seen in 12% cases. Oedema was observed in 17% of cases, of which 13% had pedal oedema, 2% had periorbital and 2% had generalized oedema (Table 6).

Analysis of investigations done in cases and control shows that serum creatinine, serum bilirubin, SGOT/SGPT, platelet count, urine R/M, urine C/S, widal test, PS for MP, and hepatitis B/C were significantly higher in cases compared to control (Table 7).

In present study 28% cases had abnormal USG findings. 25% cases had intrauterine death, oligohydramnios recorded in 6% cases, polyhydramnios 2%, congenital anomaly 6% case and others had hepatomegaly, renal parenchymal disease and incomplete abortion 3% (Table 8).

Table 7: Distribution of cases according to investigation done.

Investigation	Case (n=100)	Control (n= 50)	Chi square	P value
Serum urea	7	0	3.67	>0.05
Serum creatinine	11	0	5.93	<0.015
SGOT/SGPT	31	0	19.54	<0.0001
Serum bilirubin	33	0	21.15	<0.0001
Platelet count	11	0	5.93	<0.015
Sputum for AFB	3	0	1.53	>0.05
Widal test	27	0	16.46	<0.0001
PS for MP	40	0	27.27	<0.0001
Urine routine microscopy	21	0	12.21	<0.0001
Urine culture sensitivity	19	0	10.88	<0.001
Rubella	2	0	1.01	>0.05
HEP E	0	0		
HEP BC	20	0	11.54	<0.001
Influenza	1	0	0.50	>0.05
Herpes zoster	1	0	0.50	>0.05
Dengue	4	0	2.05	>0.05
HIV	7	0	3.67	>0.05

Table 8: Correlation of pyrexia with abnormal USG findings.

Abnormal USG findings	Frequency
Intra uterine death	11 (11%)
Oligohydramnios	6 (6%)
Polyhydramnios	2 (2%)
Congenital anomaly	6 (6%)
Other	3 (3%)
Total	28 (28%)

In cases, viruses were responsible for majority (29%) of cases of pyrexia during pregnancy and prevalence was 19.33% followed by bacteria and protozoa in 24% cases and prevalence was 16%.

Prevalence of mixed infections like bacteria and protozoa, bacteria and virus and virus and protozoa were 10%, 3.33% and 2% (Table 9).

Table 9: Distribution of cases according to prevalence of pathogens.

Pathogens	Frequency (%)	Prevalence (N=150)
Virus	29 (29%)	19.33%
Bacteria	24 (24%)	16%
Protozoa	24 (24%)	16%
Bacteria + Protozoa	15 (15%)	10%
Virus + Bacteria	5 (5%)	3.33%
Virus + Protozoa	3 (3%)	2%

DISCUSSION

The present prospective case control study was undertaken with 100 antenatal women with pyrexia as cases and 50 antenatal women without pyrexia as control who attended the antenatal outpatient department and labour room of NSCB medical college and hospital, Jabalpur, Madhya Pradesh.

In our study majority of the cases (49%) and control (46%) were observed in age group of 21- 25 years. The mean maternal age of case was found to be 24.59± 4.35 (18-39 years) and in control 24.5±3.74 (19-35 years). No age difference between cases and control observed. The reason being that the attendance of antenatal outpatient department and labour room is maximum in this age group.

According to Murthy and Makhija women in 20-24 years age group awaited maximally of antenatal patients and utilization decreased at extremes of age.[4]

In present study, Analysis of booked / unbooked history revealed that there was more booked cases in control group (82%) compared to cases (37%).

Analysis of socioeconomic and demographic factors showed that there was no significant difference in between case and control group of patient and the groups are matching.

In present study, Pyrexia was the presenting symptoms all cases, 91% cases present as Pyrexia with chills and 9% cases present as pyrexia without chills. Among associated symptoms malaise was the commonest symptom in 70% of cases, second commonest associated symptom was nausea and vomiting 69% cases, followed by third commonest associated symptom was cough 54%. Pyrexia, cough, malaise, rash, headache, nausea, joint pain, anorexia, breathlessness and burning and frequent micturition were significantly higher in cases as compared to control.

In this study in rise in temperature above 1000F was common clinical sign present in all cases. In 41% cases duration of pyrexia was 3- 6 days followed by 7-9 days in 27% cases, greater than 9 days in 20% of cases and less than 3 days in 12% of cases. Among associated clinical sign, tachycardia (pulse rate>100/min) observed in 98% cases, bradycardia (pulse rate<60/min) in 2% cases. All control had pulse rate within normal range (60-100/min). This implies important correlation of pulse rate with rise in temperature.

In present study, all 100% cases were anaemic of which 32% were mild anaemic, 44% moderate and 24% severely anaemic while in the control group 54% patients were reported anaemic of which 48% were mild and 6% patients were moderately anaemic. This figures shows

febrile patients were prone for development of anaemia leading to maternal morbidity.

Giles et al reported that there was poor correlation between haemoglobin level and parasitic index of malaria during pregnancy which was one of the cause of fever during pregnancy.[5]

Mc Gregor reported that parasitemia peaks during the second trimester of pregnancy followed by peak occurrence of anaemia.[6]

In our study 28% cases had abnormal USG findings. 11% cases revealed intrauterine death, oligohydramnios was documented in 6% cases, polyhydramnios in 2%, congenital anomaly in 6% case and others (3%) had maternal hepatomegaly, renal parenchymal disease and incomplete abortion. This implies important correlation between abnormal USG findings and pyrexia during pregnancy.

In present study, viruses were responsible for majority (29%) of cases of pyrexia during pregnancy and prevalence was 19.33% followed by bacteria and protozoa in 24% each and prevalence was 16% each. Prevalence of mixed infections like bacteria and protozoa, bacteria and virus, virus and protozoa were 10%, 3.33% and 2%.

Datey et al in a multicentric ICMR study reported the highest incidence of 4.5% HIV in pregnancy from Mumbai compared to less than 1.0% in other centres.[7]

Dave et al from Indore documented that 33 out of 500 pregnant women tested HIV positive. The age group of 25-34 was mainly affected; the mean age was 28.5 years.[8]

CONCLUSION

Pyrexia in pregnancy is common problem in clinical setting. Analysis of clinical symptoms of cases and control showed that fever, cough, malaise, rash, headache, nausea and vomiting, joint pain, anorexia, breathlessness, burning and frequency of micturition were significantly higher in cases as compared to control. Pyrexia during pregnancy increases chances of anaemia during pregnancy there by increases maternal and perinatal morbidity and mortality. Diagnosis of pyrexia during pregnancy was not dependent on any specific laboratory data, although those who had altered profile had higher maternal and perinatal morbidity and mortality. In our study virus was most common pathogen responsible for pyrexia during pregnancy. Pyrexia during pregnancy is major public health problem and high risk situation. Early identification and treatment of high risk cases should be done, so that maternal and perinatal morbidity and mortality associated with pyrexia can be reduced.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Larson EB, Featherstone HJ, Petersdorf RG. Fever of undetermined origin: diagnosis and follow-up of 105 cases, 1970-1980. Medicine. 1982 Sep;61(5):269-92.
2. Nolan SM, Fitzgerald FT. Fever of unknown origin: The general internist's approach. Postgraduate Med. 1987 Apr 1;81(5):190-205.
3. Kurt J, Bacher I. Fever including fever of unknown origin. Harrisson's principles of internal medicine, 13th edition vol-1, Mcgraw hill;1994:81-90.
4. Makhija M. Evaluation of NST according to gestational age. Indian J Paediatr. 2009;67:471-82.
5. Giles HM, Lawson JB, Sibelas N. Malaria, anemia and pregnancy. Ann Trop Med Parasitol 1969;63(2):245.
6. Mc Gregor IA, Wilson Ia, Billewicz WZ. Malaria infection of the placenta in Gambia. Trans R Soc Trop Med Hyg. 1993;72:232.
7. Datey S, Bedi N, Gaur LN. Sexually Transmitted infections among antenatal women from tertiary level hospital in India (An ICMR Task force study). J ObstetGynaecol India. 2003;53(1):53.
8. Dave A, Jajoo S, Singh R. Sero surveillance of HIV in reproductive age group. J Obstet Gynaecol India 2002;52(3):93.

Cite this article as: Porwal S, Sharma A. Analysis of clinical profile of women presenting with pyrexia in pregnancy. Int J Reprod Contracept Obstet Gynecol 2018;7:1406-10.