Is Presence of Fever a Valuable Predictor in Identifying Pregnant Ladies with Premature Rupture of Membranes?

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ABSTRACT

OBJECTIVE: To determine the frequency of pyrexia among women presenting with premature rupture of membranes.

MATERIAL & METHODS: It was a descriptive (Cross-Sectional) study conducted in the Department of Obstetrics and Gynaecology, Rehman Medical institute, Peshawar over a period of four years between 1st Jan 2015 to 31st Dec 2018. A total of 546 patients were included using Non-Probability (Consecutive) Sampling technique including women in the reproductive age between 15 and 50 years of age, with single pregnancy and diagnosed with PROM. Mercurial thermometer was used to obtain the core body temperature.

RESULTS: The patients were included in four major groups (Group 1(15 to 19years), Group 2 (20 to 29 years), Group 3 (30 to 39 years) and Group 4 (40 to 55 years). The average age of the patients was 28.62±5.9SD. The highest frequency of fever was observed in group 1 (25%) whereas the least was seen in the group 4 (11.11%). A total of 14.76% of patients in group 2 and 13.86% of patients in group 3 had documented fever with PROM.

CONCLUSION: The presence of fever can be a useful guide in identifying those vulnerable females with PROM but the absence of fever is by no means a surety that treating Obstetrician can ignore the presence of PROM.

KEY WORDS: Fever, PROM

INTRODUCTION

Premature rupture of membranes (PROM) is defined as "the rupture of foetal membranes before the onset of labour".[1] It has been observed to complicate 8 – 10% of pregnancies leading to up to one-third of preterm births.[2] It is an established fact that up to 90% of women who have PROM will go into spontaneous labour within a week.[3]The diagnosis of PROM remains mainly clinical and depends upon clinical assessment with speculum, fern model and the various biochemical tests including detection of nitrazine and vaginal di-amine oxidase.[4,5]Delay in the diagnosis is expected to result in complications like pre-term labour and chorioamnionitis leading to bad obstetric outcome.[6] Seeing the importance of early diagnosis and infection being one of the causes of PROM, this study was planned to determine the frequency of fever in patients with PROM.

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OBJECTIVE

To determine the frequency of pyrexia among women presenting with premature rupture of membranes.

MATERIALS AND METHODS

It was a descriptive (Cross-Sectional) study conducted in the Department of Obstetrics and Gynaecology, Rehman Medical Institute, Peshawar over a period of four years between 1st Jan 2015 to 31st Dec 2018. A total of 546 patients were included using Non-Probability (Consecutive) Sampling technique. All women in the reproductive age between 15 and 50 years of age, presenting to hospital as booked or emergency case with single pregnancy and diagnosed with PROM on the basis of history, clinical and speculum examination were included in the study. All those with any evidence of infection at any other obvious site were excluded from the study. Formal approval from the hospital ethical and research committee was obtained. A written informed consent was obtained from all the participants. Mercurial thermometer was used to obtain the body temperature of all the patients who were included in the study. Three readings five minutes apart followed by calculation of the mean was taking as core body temperature. Fully trained and dedicated staff nurses assigned for the task ensured to minimize any bias. The data was analyzed using SPSS version 22. Mean + SD were calculated for quantitative variables like age. Frequencies and Percentages were calculated for categorical

variables like pyrexia. All results were presented in the form of tables and figures.

RESULTS

A total of 546 patients were included in the study over a period of four years. The patients were included in four major groups. The first group included women in their teen ages between 15 to 19 years of age. The second group of women were 20 to 29 years of age, the third were from 30 to 39 years of age while the fourth group contained women from 40 to 55 years of age.

Sr No	Age Group (Years)	Mean Age	Sample Size (n=546)	Fever	Afebrile
01	15-19	18±1SD	32(5.86%)	08(25%)	24(75%)
02	20-29	26±2 SD	359(65.75%)	53(14.76%)	306(85.23%)
03	30-39	34±1.8SD	137(25.09%)	19(13.86%)	118(86.13%)
04	40-55	41±1SD	18(3.29%)	02(11.11%)	16(88.88%)

The average age of the patients was 28.62±5.9SD.

The highest prevalence of pyrexia was found in women of the first group between 15-19 years of age amounting to 25% whereas the least was observed in the fourth group (40-55years), recorded as 11.11%.

DISCUSSION

Premature rupture of the foetal membranes (PROM) is defined as the occurrence of rupture of the fetal membranes prior to the onset of labour. PROM remains common occurrence in normal pregnancies and has been reported in 5–10% of cases.[7] The early detection and diagnosis of the PROM is of paramount importance as it can happen in both preterm and term pregnancies requiring advanced obstetric care and frequent occurrence of complications.[8]

The bacterial colonization is primarily thought to be responsible for the weakening of tensile strength of the membranes and resultantly leading to PROM. McGregor et al proved this hypothesis by signifying exposure to bacteria and bacterial collagenase ending up in bigger chances of rupture of the membranes prematurely.[9]

Sbarra and colleagues demonstrated that the growth of Group B Streptococci and E Coli on the surface of the foetal membranes was more associated with PROM when contrasted with a group of patients who had uninfected membranes.[10]The same findings were reproduced by Schoonmaker et al.[11]

We live in a resource starved country and lack adequate healthcare facilities including antenatal care. The clinical parameters continue to take precedence over laboratory and clinical workup. The study evaluated the presence of fever in a patient with PROM and with a hope to better predict the occurrence of PROM. We divided our study population in four groups and found that the highest prevalence of fever was observed in patients presenting with PROM in teen age pregnancies amounting to 25% whereas the least was observed in the fourth group of patients (40-45years) amounting to 11.11%. The results of the study can be read in another aspect by observing that a huge number of patients (75%, 85.23%, 86.13% & 88.88%) were having PROM without any evidence of fever. This clearly denotes the fact that the mere absence of fever should not divert the attention of the treating Obstetrician against the diagnosis of PROM.

The available literature shows that fever was observed as one of the primary presenting complaint in patients with 4% of patients with PROM, as reported by Güngördük K et al.[12] The much higher percentages of fever noted in our patients presenting with PROM may well be secondary to the poor antenatal care, different dynamics of population with diverse changes in the socioeconomic, general health, immunity, nutritional status and so on and so forth.

It is worth knowing the fact that seeing the high white blood cells may not be a consistent in establishing infection in pregnant women as the same can be high in normal pregnancies without any evidence of infection.[13]

In an evaluation of 8320 women, Johnson et al reported increased intrapartum fever in women with PROM in contrast to the general population. The situation is further compounded by observing the increase in perinatal mortality and worst foetal outcomes with the longer durations of PROM, especially beyond 72 hours.[14] The obvious risk can well be explained by the open membranes allowing the bacteria to enter.

CONCLUSION

Irrespective of its aetiology, maternal intra-partum fever carries considerable risks both for the mother and her unborn child. The presence

of fever can be a useful guide in identifying those vulnerable females with PROM but the absence of fever is by no means a surety that treating Obstetrician can ignore the presence of PROM.

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