

PUERPERAL PYREXIA

by

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Pyrexia during puerperium still remains one of the important causes of morbidity amongst parturient women. Mortality has been reduced considerably because of the use of potent antibiotics. The traditional definition of puerperal pyrexia is the fever which develops within 14-21 days after the birth of the child which either recurs or is sustained at 100.4°F (38°C) or above and is accompanied by rise in pulse rate.

In England and Wales and Scotland febrile illness occurring within 14-21 days after parturition is considered as a notifiable disease. Several causes have been enumerated which are either genital in origin or extragenital. Amongst the latter are infections of the respiratory tract, urinary tract, breast, cardiovascular system, gastro intestinal tract and nervous system. Even the protozoan infections like malaria stand out as a prominent cause in country like ours. The problem has been universally studied from several angles (Calman and Gibson, 1953; Ullery 1954; Menon 1960; Motashaw and Jadhav 1960; Schulman and Zatuchii 1964; Heera and Das 1973 and Sweet and Ledger 1973). Unfortunately, this not being a notifiable disease in India, neither the magnitude of the pro-

blem nor its etiologic relationship is well recorded. An analysis of 25,500 deliveries is reported in this study with a view to understand the dimensions of this problem in this part of India.

Material and Methods

Twenty-five thousand and five hundred deliveries over a period of 3 years were carefully studied. Fever occurring within 48 hours after birth of the baby and disappearing without any specific therapy was regarded as transient fever. Such cases were also included. Data with regard to age, parity and whether they hail from rural or urban areas, were recorded. Record of operative and non-operative deliveries was also kept. Operative procedures included caesarean sections, use of forceps, versions and episiotomies and other obstetrical operative methods. Those febrile cases who died during puerperium were assessed for causes of death. Bacterial flora of 300 cases with and without fever in puerperium were studied. Haemoglobin levels were also determined in all cases of pyrexia.

Observations

Three thousand and thirty-seven out of 25,000 women showed rise in temperature. Over all incidence of fevers during puerperium was 11.9%. Out of 3037 cases with fever, 982 (32.3%) had trans-

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ient fever and in 260 cases (31.6%) cause of fever was ascertained to be of genital origin. Other causes are enlisted in Table I. Age-wise maximum number (34.9%) of cases fell in 21-25 years of age group. Highest number of cases was seen in first para (44.0%). Out of these febrile cases, 937 were in non-operative deliveries (7.26%), whereas in the remaining 2100 cases (16.6%) surgical procedures were resorted to. A vast majority of febrile cases (89.5%) had haemoglobin levels below 10 gms. only

320 cases had Hb. level above 10 gms. Approximately two-thirds of cases with pyrexia belonged to rural areas. Death was recorded in 46 cases. Causes of mortality are shown in Table II. Only 6 (13.0%) died of obstetrical reasons. Bacterial flora of 300 febrile patients are listed in Table III. *Escherichia coli* alone or in combination with other organism accounted for nearly 40.0% of cases, as against 32.6% in normal subjects in puerperium.

TABLE I
Causes of Pyrexia

S. No.	Cause	No.	Percentage
1.	Puerperal endometritis pelvic inflammations	960	31.6
2.	Transient fever	982	32.3
3.	Malaria	565	18.6
4.	Gastro-intestinal disorders including typhoid	161	5.3
5.	Urinary tract infection	112	3.7
6.	Respiratory tract infection	64	2.1
7.	Hepatitis	60	2.0
8.	Koch's lungs	48	1.6
9.	Encephalitis & Meningitis	31	1.0
10.	Mastitis	30	1.0
11.	Thrombo-phlebitis	24	0.8
		3037	100.0

TABLE II
Causes of Mortality in 46 Cases

Non-Obstetrical Causes		Obstetrical Causes	
1. Cerebral malaria	—10 (25%)	Post-caesarean septicaemia	2
2. Hepatitis	— 4 (10%)		
3. Encephalitis and Meningitis	— 6 (15%)	Puerperal septicaemia	4
4. Koch's lung	— 2 (5%)		
5. Cortical vein thrombosis	— 4 (10%)		
6. G.I.T. disorders (including typhoid)	— 4 (10%)		6
7. Anaemia	— 6 (15%)		(13.0%)
8. Heart disease	— 4 (10%)		
		40 (87.0%)	

TABLE III
High Vaginal Swab Culture

Bacteria	% in Normal cases (300 cases)	% in febrile cases (300 cases)
Sterile	53%	26.7%
<i>Esch. coli</i>	15%	33.3%
<i>Klebsiella</i>	8.2%	12%
<i>Esch. coli</i> & <i>Klebsiella</i>	4.2%	2%
<i>Klebsiella</i> & <i>Staph- pyogenes</i>	3%	2%
<i>Streptofaecalis</i>	3%	2%
<i>Staph-pyogenes</i>	4.2%	4%
<i>Esch. coli</i> & <i>Staph- pyogenes</i>	1.4%	4%
<i>Pseudomonas</i>	1.4%	3%
Micrococci	3.3%	3%
Diphtheroid	3.3%	4%
<i>Staph-pyogenes</i> & <i>Strepto-faecalis</i>	—	2%
<i>Klebsiella</i> + <i>proteus</i>	—	2%

Comments

Our study indicates an incidence of puerperal pyrexia as 11.9% out of a total of 25,500 deliveries studied over a period of 3 years. Two-third of pyrexia cases belonged to rural areas. This points towards a strong need for better antenatal care and improvement of general health of the rural population.

Approximately 60% of the patients of pyrexia had surgical intervention, indicating that surgical interference increases the chances of infection. The maximum number of cases were in the age group of 21-25 years and were first para. It is probably due to the fact that more surgical intervention is done in the latter group. Anaemia is one of the major predisposing factor, since 89.5% had Hb level less than 10 gm. The incidence of transient fever in our series was 32.3%. The transient fever is the fever which appears within 48 hours of delivery, has no detectable clinical or bacteriological

cause and passes off without treatment. (Calman and Gibson, 1953) reported 50% of cases of fever being of transient nature. Recently, (Sweet and Ledger, 1970) reported the latter fever being in 16% of the cases. This raises the question of using antibiotics in all cases of fevers without investigating the cause of fever.

The fever due to non-obstetrical causes accounted for 37.1% of cases. In western part of the world the incidence of fever due to non-obstetrical causes has been reported very low as only 2.8% (Calman and Gibson, 1953). It is possibly due to higher prevalence of medical disorders like malaria, hepatitis, Kochs infection, etc. in our country accounting for puerperal morbidity and fever.

The most predominant bacteria cultured was *Esch. coli* alone or in combination with other organisms, being as much as 40%. Organisms like *Streptococcus haemolyticus* which being predominant and dangerous isolates in the past (Colebrook and Hare, 1933 and Calman and Gibson, 1954) were conspicuously absent in our cases. This is probably due to wide use of penicillin in many centres. Our findings are in consonance with the recent studies by others (Sellner, 1968 and Sweet and Ledger, 1973) and also by us in some of the recent works. (Agarwal, 1970; Agarwal and Kumari, 1978) where *Esch. coli* has been found in increasing numbers.

Our study points to the fact that the pattern of ecology of normal pregnancy and puerperium is similar to the ecology in puerperal fever the difference being only quantitative. It appears that bacteria lying dormant get activated in unfavourable conditions like surgical trauma and low general health.

The above observations, reaffirm the need of good antenatal care with thorough check up for obstetrical as well as medi-

cal disorders and treating them at the earliest opportunity so that the morbidity and mortality encountered in puerperal period could be reduced to a unavoidable minimum level.

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