SEPSIS AND MATERNAL MORTALITY

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SUMMARY

Sepsis is one of the most leading causes of maternal mortality in India. The present study highlights the changing trends in the maternal mortality pattern due to sepsis. Availability of liberalised abortion laws, improvement in maternal and child health services, availability of potent systemic antibiotics and increased utilisation of family planning and contraceptive measures have resulted in a significant reduction in maternal deaths attributable to sepsis. The percentage of sepsis related maternal deaths decreased significantly from 45.5% in 1967-1968 to 28.8% in 1987-1988.

INTRODUCTION

Sepsis, Haemorrhage and toxaemia form the triad amongst the important causes of maternal mortality. A FOGSI (Federation of Obstetric and Gynaecological Societies of India) study reported the maternal mortality rate from 27 centres to be 7.5/1000 births (Rao 1980, 1982). In India, sepsis tops the list of causes of maternal deaths followed by haemorrhage and toxaemia. In Western countries the order is haemorrahage, sepsis and toxaemia (Ledger et al 1975). Ninety five percent of the deliveries in our country are home deliveries and majority of them are conducted by untrained Dais under unhygeinic conditions. Thus it is not surprising that hospital emergency services continue to admit patients with sepsis during pregnancy, labour or post partum.

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During the last two decades various advancements have occurred mainly availability of liberalised abortion laws, effective contraceptives, family planning services, health education and potent antibiotics. The aim of the present study is to review the impact of these factors on maternal mortality mainly related to sepsis.

MATERIAL AND METHODS

The present study is a retrospective 6 year analysis of maternal deaths due to sepsis during 3 different time periods 1967-1968, 1977-1978, 1987-1988 i.e. each a decade apart. This work was carried out in the department of Obstetrics and Gynaecology of the Lady Hardinge Medical College and Smt. Sucheta Kriplani Hospital, New Delhi, This hospital mostly caters to a poor and illiterate population with more than 70% of the emergency admissions being unbooked. The first analysis from 1967-1968 reflects the era

prior to enactment of the medical termination of pregnancy (MTP) act. The second time period 1977-1978 was the phase soon after the liberalisation of abortion laws in our country. Period of analysis reflects the long term influence of the liberalised abortion laws nearly 15 years after they were introduced.

TABLE I : MATERNAL DEATHS DUE TO SEPSIS

	1967-1968	1977-1978	1987-1988
Total maternal deaths	112	122	142
Deaths due to sepsis	51	44	41
% deaths due to sepsis	45.5%	36%	28.8%
Maternal mortality rate	8.3/1000 births	8.7/1000 births	7.2/1000 births

TABLE II : CHANGING TREND IN MORTALITY PATTERN DUE TO SEPSIS

	1967-1968	1977-1978	1987-1988
No.of deaths due to sepsis	51	44	41
Puerperal sepsis	30(58.8%)	25(56.8%)	32(78%)
Septic abortions	21(41.2%)	19(43.2%)	9(22%)

TABLE III : SALIENT FEATURES OF MATERNAL DEATHS DUE TO SEPSIS

Features	%
Emergency admissions with no antenatal care	100
Duration of stay less than 24 hours	40
Duration of stay less than< 1 week	90
Interference by Dai	100
Severe anaemia 4 gm% in puerperal sepsis	80
Low socioeconomic status	100

RESULTS AND DISCUSSION

Maternal mortality rate and percentage of maternal deaths due to sepsis during these 3 different periods is shown in Table I. The maternal mortality rate shows an insignificant decline during the three different periods of study but the maternal mortality attributable to sepsis shows a remarkable decrease from 45.5% in 1967-1968 to 36% in 1977-1978 and 28.8% in 1987-1988. Judicious use of potent antibiotics blood transfusion and availability of facilities for safe medical termination of pregnancy have all contributed significantly to the decline in maternal deaths due to sepsis.

The changing trends in maternal mortality pattern due to sepsis is evident from Table II. During the first study period (1967- 1968) mater-

nal mortality due to puerperal sepsis was 58.8% and septic abortions accounted for 41.2% of the maternal deaths attributable to sepsis. This trend changed during the third study period (1987-1988) as septic abortions now account for less than one fourth of the maternal mortality due to sepsis. The second study period 1977-1978 was the phase soon after the enactment of the MTP act. It was expected that maternal mortality due to septic abortions would come down drastically. However, a significant difference was not observed. This could be because with the liberalisation of abortions, illegal abortion were also being performed freely as patients from rural areas and peripheral towns were still not aware of the MTP act and hence were not actually benefitted from the available facilities for legal and safe abortion provided by government organisations. The significant impact on the reduction of maternal deaths due to septic abortions is reflected in the third study period. By then women had become aware of the facilities available to them and also a large trained medical personnel were performing MTP and thereby the proportion of illegal abortions had decreased.

On analysing the data further some interesting salient features were noticed in mortality related to sepsis. All these cases were admitted as an emergency, the majority being unbooked severely anaemic and with history of interference by untrained personnel. (Table III). Most of them were seriously ill with peritonitis, gut injury, endotoxic shock, renal and coagulation failure. It is thus clear that mortality due to sepsis is to a large extent preventable if the above mentioned associated factors are taken care of.

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