

MATERNAL MORTALITY IN JAUNDICE

by

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SUMMARY

A five years' (1978-1982) retrospective study of maternal deaths due to Jaundice in N.R.S. Medical College and Hospital, Calcutta is presented. The death rate was 31.78%. This condition was responsible for 56.94% of all indirect causes of maternal deaths. Probable causes of high maternal mortality rate in Jaundice and the common types of Jaundice encountered in pregnancy have been discussed. Analysis shows that out of 41 deaths, 27 were admitted in precomatose or comatose state and expired within 3 days of admission. 16 (37%) cases were between 21 to 28 weeks of pregnancy. Suggestions have been put forward regarding prevention and diminution of high maternal mortality rate in Jaundice. Scopes of termination of pregnancy in desperate circumstances have also been discussed.

Introduction

Jaundice is a relatively uncommon complication encountered in pregnancy. But its impact on maternal mortality is profound particularly in developing and underdeveloped countries (Christie *et al* 1976; D'Cruz *et al* 1968; Khuroo 1981; Konar *et al* 1977; Berhanmanesh *et al* 1973).

Certain factors probably play important role in the development of jaundice and its

more deleterious effects in pregnant women. These are :-

(1) Excess demand on the liver as a result of surge of circulating placental hormones which require conjugation and also produce certain minimal biochemical and histological changes.

(2) Depression of immune mechanism probably makes a pregnant woman more susceptible to infection.

(3) Associated hypoproteinaemia and concomitant dietary variabilities of pregnancy makes a pregnant woman more viable.

Jaundice of two main categories may be encountered in pregnancy :-

(A) Those peculiar to pregnancy

(1) Hyperemesis gravidarum

(2) Acute fatty liver of pregnancy

(3) Cholestasis of pregnancy

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- (4) Toxaemias if pregnancy
- (5) Endotoxic shock — D. I. C.
- (6) Rarely hepatic venous occlusion due to hypercoagulable state of pregnancy (Budd-Chiari Syndrome).

(B) Jaundice incidental to pregnancy

- (1) Viral hepatitis
- (2) Haemolytic
- (3) Drug induced
- (4) Biliary cirrhosis
- (5) Extra hepatic cholestasis.

Amongst these diverse causes, viral hepatitis, acute fatty liver of pregnancy, drug induced hepatic failure and endotoxaemia are commonly encountered aetiological factors causing maternal death.

In developed countries incidence of maternal death due to viral hepatitis is meagre (Sherlock 1981, Isselbacher 1983, Haemmerli 1966).

A five year retrospective study of maternal deaths due to jaundice has been carried out in NRS Medical College & Hospitals, Calcutta, between 1978 and 1982. This hospital caters to a population who do not have comprehensive health care and ignorant of the values of preventive obstetrics. Outbreaks of epidemics of waterborne diseases very often take place. These factors are responsible for the increased incidence of

jaundice in pregnancy and raised maternal mortality rate.

Analysis of Results

I. A) Analysis of maternal deaths in jaundice — a 5 years study, NRS Medical College & Hospital, Calcutta, 1978-1982.

II. *Agewise Distribution :-*

16-20 years	—	10
21-29 years	—	18
30 years and above	—	13

III. *Paritywise Distribution :-*

Nulli	—	5
1	—	10
2	—	11
3	—	6
4 and above	—	8
Unknown	—	1

IV. *Geographical Distribution :-*

Rural	—	19
Urban	—	19
Semiurban	—	3

V. *Period of Amenorrhoea :-*

Below 20 wks.	—	3
21-28 wks.	—	16
29-36 wks.	—	14
37 wks. & above	—	2
Puerperium	—	6

Total No. of admissions	—129
Maternal deaths	— 41 (31.78%)
Total maternal deaths	—287
jaundice in relationship to total	
maternal deaths	— 14.28
Indirect obstetric death	— 72
Percentage of death due to jaundice in relationship to	
indirect obstetric death	— 56.94
M.M.R. due to jaundice	—135.10
(Death per 1,00,000 live births)	

(B) *Yearwise Distribution:-*

Year	1978	1979	1980	1981	1982
Admission	23	39	27	36	7
Death	3	21	10	2	5

VI. Admission Death Interval :-		
0-24 hours	—	15
1-3 days	—	12
3-7 days	—	8
7 days & above	—	6
VII. Outcome of Pregnancy :-		
Undelivered	—	19
Delivered	—	22
(including abortion)		
Abortion	—	4
Live birth	—	6
Still birth	—	12
VIII. Condition on Admission :-		
(a) With Jaundice	—	39
Without Jaundice	—	2
(b) Conscious	—	14
Precomatose	—	12
Comatose	—	15
IX. Cause of Death :-		
Coma	—	30
Convulsive state	—	4
Hepatorenal failure	—	2
Coagulopathy leading to haemorrhage	—	5

while 38.87% were beyond 29 weeks of pregnancy. This is in contradistinction to the usual opinion of different authors (Khuroo 1981; Borhanmanesh 1973; Fallon 1984) who claim that maternal deaths almost exclusively occur in the 3rd trimester of pregnancy. It has also been found out that 46.37% died undelivered.

In only 2 cases jaundice developed after admission, one, who had fulminating hepatic failure, while being treated for PET and the other who developed jaundice 7 days after hysterotomy and ligation and died within 72 hours.

Determination of exact aetiology of jaundice could not be made in many cases due to late admission, inadequate history and paucity of investigative procedures. Presumptive diagnosis was made based on clinical course of the diseases. History of criminally induced abortion leading to endotoxaemia and jaundice was obtained in 2 cases. There was evidence of coagulopathy in 5 cases. It is of interest that more than 50% of deaths occurred in 1979 when there was epidemic

X. Comparative Analysis of Death due to Jaundice

Series	Total Deaths	Death due to Jaundice
Kochar et al (1977)	180	25 (13.88%)
Motashaw et al (1977)	715	81 (11.32%)
Konar et al (1977)	637	99 (15.54%)
Tiwari et al (1977)	292	56 (19.18%)
Ojo et al (1977)	183	28 (15.30%)
Christie et al (1976)	293	12.97%
Present Series	287	41 (14.28%)

Discussion

Jaundice in pregnancy has a very grave prognostic significance as shown by 31.78% mortality rate. Age, parity and geographical distribution did not reveal any significance. As regards the period of amenorrhoea a very significant fact could be obtained — 37% of the patients were between 21 to 28 weeks

of viral hepatitis in this part of the country.

Contrary to the claims made by authors from developed countries (Sherlock 1981, Isselbacher 1983, Haemmerli 1966) it has been shown in the present study that jaundice plays an important role in maternal mortality. This has been substantiated by reports from various authors from different

parts of India and other developing countries (Konar 1977, Tiwari 1977, Oja 1977).

Management includes diet, rest, bowel wash, Glucose/Levulose infusion, Neomycin, Vitamins and Monosodium Glutamate as necessity arises. Controversy exists regarding the use of steroids routinely. The present day contention is that use of steroid is of very little value in the ultimate prognosis of the disease (Sherlock 1981, Isselbacher 1983, Fallon 1984).

Administration of L-Dopa, .5 to 1G through a nasogastric tube in precomatose and comatose patients has been found to be useful in improving the level of consciousness. However, the improvement is mostly temporary. Considering the possibility that Hepatic coma occurs as a result of oedema of brain, intravenous manitol infusion, frusemide and hydrocortisone has been used recently in hepatic coma with promising results.

A serious consideration should be given to the question of termination of pregnancy in those patients, who, in spite of adequate supportive management do not show clinical improvement and have deteriorating biochemical parameters e.g. increasing or static SGOT, SGPT and Serum Bilirubin levels. The methods of termination of pregnancy depend mainly on the period of gestation. But in case of mid-trimester induction, vaginal extra-amniotic instillation of Ethacridine Lactate seems to be the least harmful procedure.

In the prevailing socio-economic condition of our country it is not possible to provide for ideal health care coverage to all the pregnant women. But the above mentioned procedures, adopted judiciously and selectively, are expected to minimise maternal mortality from jaundice.

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