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Maternal and Perinatal Outcome in Cases of Moderate and Severe Anaemia

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Summary

Anemia in pregnancy is one of the leading causes responsible for maternal and perinatal morbidity and mortality. It accounts for 20% direct cause and 20% of indirect cause for maternal mortality.

The study comprised of 200 anaemia cases and 100 nonanaemia (control cases). The cases in whom Hb was below 10 gm were considered as anaemic. Out of 200 cases, 71.5% had moderate anaemia and 28.5% had severe anaemia.

It was found that higher incidence of Toxemia (24.5%), hydramnios (1.5%) APH (5%), Premature Labour (6.63%), PROM (13%), PPH (2.5 times than in control), Maternal Morbidity (20.5%) and Maternal mortality rate was present (71.4 / 1000 live birth) than in non Anaemic control.

The higher incidence of perinatal morbidity and mortality was also associated with anaemic mothers in terms of birth (7% vs 3%), Low birth weight babies (37.5%), still birth rate (122 / 1000 birth), Perinatal mortality rate (110 / 1000 birth Vs 30 / 1000 birth in control series).

Introduction

Anaemia is defined as reduction in the circulating red cell Mass and corresponding decrease in Hb Mass and Oxygen carrying capacity of blood. According to W.H.O. reference committee on Haematology 1968 a level of Hb below 11 gm% during pregnancy has been accepted as indicative of Anaemia.

Moderate	6.5 – 8.0 gm%
Severe	6.5 gm% and Less

Incidence of Anaemia is about 50% in general population. It is four times more in females as compared to males. India has the highest prevelence with 80% females suffering from it.

If anaemia is left untreated and uncared, it leads to increased morbidity due to development of complications like abruptio placentae, intercurrent infection, premature pains, prom, preterm labour, heart failure. It may precipitate uterine inertia leading to ppH, puerperal sepsis, lactation failure, puerperal venous thrombosis, pulmonary embolism.

Anaemia increases perinatal morbidity & mortality by altering placental function.

Complications can be prematurity, IUGR, congenital anomalies, Intrauterine death, birth asphyxia infection in perinatal period.

Aims and Objectives

Present study is undertaken with following objectives:

1. To detect the incidence of anemia in our institution during the study period with special reference to severity.
2. To find out maternal complications during antenatal period.
3. An effort is made to note the mode of delivery and problems arising during labour in special reference

to severity of disease.

4. Complications durng post partum period are also studied.
5. Perinatal outcome detected in relation to severity of anaemia.
6. To find out the ways to reduce the maternal morbidity and mortality and perinatal morbidity and mortality.

Material and Methods

The study was conducted on patients who delivered at M.Y. Hospital Indore during 6 month period from 1st July 98 to 31st July '98. Total 300 cases were studied. Out of which 200 were anaemic and 100 were non anaemic as control. Hb value is taken as a criteria for deciding the anaemic cases and also to classify them according to severity.

Cases were divided into three groups.

Moderate Anaemic	6.5 – 8 gm%
Severe Anaemic	Less then 6.5 gm%
Control Group	More then 10.0 gm%

All the cases were studied in full details regarding literacy, socio economic status, diet, addiction, occupation, parity, interval between conception, history of abortions, MTP & outcome of previous pregnancies.

- Present pregnancy details regarding number of antenatal visits, ill health, chronic infection or infestation, anytime during pregnancy were studied.
- Mode of delivery, any operative interference if required was also studied.
- Intrapartum, post partum and puerperal complications were studied.
- Total outcome was also judged by detailed neonatal examination at birth, during hospital stay as well as puerperium.

Observation & Results

1. Out of 200 cases of Anaemia 143 (71.5%) were moderate anaemia and 57 cases (28.5%) were severe anaemia.
2. Most common type of anaemia was microcytic hypochromic anaemia (66.5%) followed by dimorphic anaemic (22%).
3. Maximum cases had less then three antenatal visits (83.5%) as compared to booked cases (6.5%).
4. 34.5% (69) cases were primigravida and multipara comprised 60.5% (121) cases.
5. Most cases belong to low socioeconomic group. Nutritional factors were found to be the cause in nearly 70% cases.
6. Associated Medical disorder.

Worm infestation	08
Malaria	13
C C F	11
Dysentry	01
Jaundice	09

7. Preterm labour occurred in 06(4.19%) of moderate anemia cases, 13.2% (07) cases of severe anaemia cases and 3.1 (03) cases of control group.
8. Spontaneous normal vaginal delivery occurred in 69.5% (139) cases of anaemia as compared to 89% cases of control group. Outlet forceps was applied in 6.5% (13) cases of anaemia Vs 2% cases of control, LSCS done in 20.5% (41) cases of anaemia Vs 5% cases of control group. Most common indication of LSCS in anaemia group was fetal distress (12) followed by APH(7).
9. **Maternal Mortality**
   There were 13 Maternal deaths all belonging to severe anemia group, which were all emergency cases. Maternal mortality rate in Anaemia was 71.4/ 1000 live birth.

In control group maternal mortality was nil.

Causes of Death :

CCF	9 (69.23%)
Hypovolemic shock followed byPPH	3 (23.07%)
Septic shock in cases of Sev. Anemia with Puerperal Sepsis	1 (7.7%)

Toxemia of pregnancy developed in 24.5% (49) to 2% of control group.

Table-I
Incidence of Toxemia of Pregnancy

Type of Anaemia	Gestational Hypertension	Pre-eclampsia	Eclampsia	Total
Moderate				
No. of Cases	18	14	01	33
%	(12.58%)	(9.79%)	(0.69%)	(23%)
Severe	03	10	03	16
	(5.26%)	(17.54%)	(5.26%)	(28%)
Control	-	01	01	02
	-	(1%)	(1%)	(2%)

Table II
Distribution of APH in Anemia and Control Cases

Type	Abruptio	Placenta Previa	Total
Moderate			
No. of Cases	03	01	04
%	(2.09%)	(0.69%)	(2.69%)
Severe			
No. of Cases	03	03	06
%	(5.26%)	(5.26%)	(10.52%)
Control			
No. of cases	-	02	02
%	-	(2%)	(2%)

Table – III
Anemia – Third Stage Complication

Complication	Moderate	Severe	Total
Retained Placenta			
Total Cases	01	03	04
%	(1.39%)	(3.69%)	(2.09%)
PPH	01	04	05
%	(1.39%)	(7.54%)	(2.5%)

Table – IV
Anaemia – Puerperal Complications

P. Complication	Mod. Anaemia	Severe Anaemia	Total
1. Puerperal Pyrexia	09	08	17 (8.6%)
2. Puerperal Sepsis	01	02	03 (1.53%)
3. Subinvolution	02	02	04 (2%)
4. Lactation failure	02	05	07 (3.5%)
5. Episio. gap	03	05	08 (4%)
6. Abdominal Gap (Post LSCS)	01	-	01 (2.45%)
7. Resp. tract infection	-	01	01 (0.5%)

Table – V
Anaemia-Perinatal Outcome

Complication	Anaemia Cases		Control Cases	
	No.	%	No.	%
Preterm Births	19	9.5%	04	4%
IUGR	75	37.5%	30	30%
Asphyxia Neonatorum	16	7.02%	03	3%
Congenital Malformation	03	1.5%	01	1%
Still birth	13	6.5%	02	2%
ENND	09	4.5%	01	1%

Average Birth Wt. - 2.05kg. in Anaemia group
- 2.4 kg. In Control group

Perinatal Mortality Rate - 117.64/1000 live births in Anaemia Group
- 30.61/1000 Live births

Discussion

1. Eastman and Hellman (1963) suggested that there is definite correlation between severity of anemia and toxemia of pregnancy. In our study the incidence of toxemia of pregnancy in moderate and severe anemic cases are 23% and 28% respectively.
2. Hibbard & Habbard (1964) stated that increased frequency of accidental hemorrhage in these cases is very likely to be due to folic acid deficiency. Similar correlation was also seen in our study.
3. Beisher and Hattan (1972) reported increased incidence of premature labour. Similarly we also studied a high incidence of pre-term births (9.5%) in anemic patients as compared to controls (4%).
4. Beiser and Hattan (1972) also reported high incidence of forceps delivery and caesarean section in 10.6% of cases. In our study incidence of forceps applications is 6.5% while the caesarean section was done in 20.5% cases.
5. Acharai and Rani (1971) reported 14.5-16.7% incidence of premature labour and 2.1% incidence of congenital malformation in anemic patients. In our study these are respectively (4.19% - 13.2% and 1.5%)
6. Lowenstein et al (1955) found that uterine inertia is the most common cause of PPH in anemic patients. They reported 11.0% incidence of PPH in anemic patients. We found PPH in 7.54% cases of severe anemia

Conclusion

Joint social and medical efforts are required for over all improvement of living status of women. Their awareness is to be increased about dieting habits small family norms, birth interval and regular antenatal visits. Proper antenatal care is the basic requirement for prevention, early detection and treatment of anaemia

Iron and folic acid deficiency anemia is the most common type, therefore adequate iron and folic acid prophylaxis is a must in all antenatal women

Delivery of anaemia patients should be conducted preferably in well equipped institution where facilities of intensive cardiac care unit blood bank and intensive neonatal care unit are available

Motivation of the patients for acceptance of any of the contraceptive methods is the key for improving the status of the mother and her family

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