PUERPERAL MORBIDITY SPECTRUM IN MOTHERS WITH HEMOGLOBINOPATHIC ANEMIA

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SUMMARY

710 anemic mothers were screened for hemoglobinopathy of which 60 were found to be suffering from the same. The spectrum of puerperal morbidity in these mothers as well as their babies was studied. It was found that these mothers were significantly more suceptible to wound gaping, delayed uterine involution and sickle crisis. Their babies were distinctly more susceptible to neonatal hyperbilirubinemia, birth asphyxia, low PCV & neonatal anemia.

INTRODUCTION

Anemia is a known factor producing morbidities and mortalities in pregnancy. No wonder anemics are thus classified as a "high risk" pregnancy. Nearly 98% anemics in our set up are of nutritional origin. As a result all aspects related to these remain well studied. However, morbidities associated with non nutritional anemias are not so well documented, especially in our country. Hemoglobinopathies are admittedly a giant group of non-nutritional anemias. Some workers (Fleming & Lee - 1983, Shafei et al 1992) have worked in individual morbidities associated with these conditions. However, in this study the entire spectrum of puerperal morbidities in mothers as well as their newborns, in hemoglobinopathically anemic subjects is studied. Also, it being a prospective case controlled study, attempts have also been made to evaluate as to whether that particular morbidity was more in this group than the other groups.

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MATERIAL AND METHODS

This is a prospective case controlled study. It was carried out in the dept. of

Obstetrics & Gynaecology, Medical College and S. S. G. Hospital, Baroda from 1st August 1991 to 31st January 1993.

Clinically anemic pregnant subjects coming for antenatal care or admitted in obstetric ward were screened to detect the presence of hemoglobinopathies during the study period. All of these subjects having hemoglobinopathies were followed up and their puerperial events carefully documented.

For each case of hemoglobinopathy two types of controls were taken. These controls were matched for age, parity and such variants. One group of control was that of equal number of matched mothers with iron deficiency anemia and the second matched group of controls was that of non-anemic mothers.

They were grouped as :

I : Indexed cases (Anemia with hemoglobinopathies)

C_1 : Matched controls with iron deficiency anemia.

C_2 : Non anemic mothers.

The results so obtained were analysed in the light of current literature.

RESULTS

During the study period total of 710 pregnant anemic mothers were screened for hemoglobinopathies. Of these 60 (8.45%) were found to be positive. They were followed up through their puerperium and any puerperal morbidity occuring in them was documented. 60 mothers were grouped as indexed cases (I) and had two controls who were similarly followed up as detailed in the previous section. They constituted C_1 & C_2 groups.

As shown in this table some morbidities were significantly higher in indexed cases. Wound gapings, delayed involution of uterus, sickle crisis and pulmonary complications were distinctly higher amongst mothers with hemoglobinopathies. However, puerperal pyrexia and C.C.F. was higher in both the anemic groups - I as well as C_1 as compared to C_2.

Statistical indices, where ever applicable were applied. The difference was significant for wound gaping ($P < 0.001$). For other morbidities though the

Table I

Maternal Morbidity

Morbidity	Index		C_1		C_2	
	No.	%	No.	%	No.	%
Wound gaping	09	60.00	01	33.30	01	10.00
Puerperal pyrexia	10	16.67	10	16.67	01	03.33
Delayed involution	04	06.67	00	00.00	00	00.00
P. P. H.	00	00.00	00	00.00	01	01.67
Sickle Crisis	03	05.00	00	00.00	00	00.00
Pulmonary Complications	02	03.33	00	00.00	00	00.00
C. C. F.	08	13.33	06	10.00	00	00.00

Table II

Neonatal Morbidity

Morbidity	Index		C_1		C_2	
	No.	%	No.	%	No.	%
Septicemia	15	25.00	05	08.33	02	03.33
Birth Asphyxia	16	26.67	07	11.67	04	06.67
Hyperbilirubinemia	10	16.67	10	16.67	02	03.33
Cong. Malaria	00	00.00	06	10.00	00	00.00
Low PCV & Anemia	04	06.66	03	03.00	00	00.00

difference was distinct but as there were no cases in the other groups, statistical indices had their limitations.

However, for CCF the difference between I and C_1 was not significant ($P > 0.05$) but was distinctly significant with C_2.

As shown in this table there was a distinct spectrum of fetal morbidities in newborns of hemoglobinopathic mothers. The incidence of neonatal septicaemia was 25% in I group as compared to 8.33% in C_1 and 3.33% in C_2 groups, respectively. This was statistically significant ($P < 0.001$).

Also birth asphyxia was 26.67% in I group as compared to 11.67% in C_1 & 6.67% in C_2 groups. Again this difference was statistically significant ($p < 0.001$). No other morbidity studied was higher in babies born to indexed mothers.

Neonatal hyperbilirubinemia was higher in babies born to both group of anemic mothers as compared to the non-anemics. Similarly PCV was low and neonatal anemia significantly higher in anemic mothers as compared to non anemic mothers.

DISCUSSION

Anemia in mothers due to hemoglobinopathies seems to be producing a distinctive morbidity pattern in both - the mothers as well as their newborns.

A mother with hemoglobinopathies is distinctly at a higher risk of wound gapings. Probably, poor tissue healing and increase chances of infection due to this chronic states may be attributed to this morbidity. However, vascular sludging leading to poor tissue oxygenation in hemoglobinopathics may also be responsible (Cooley - 1984). Similarly, delayed uterine involution in hemoglobinopathic mothers were those who also had puerperal pyrexia and a focus of infection therein.

Sickle crisis is very likely in post operative and post partum period (Turnbull and Chamberlain 1989). However, the presence of raised HbF in these mothers does not decrease the number of crisis attacks in post partum phase but dose reduce its severity (Shafei et al 1992).

Mabel and Laurence (1991) described the chest syndrome in hemoglobinopathic

mothers, post partum. However in the present study as there were 2 cases of pulmonary complications in the indexed group, the number is too small for any discussion. Expectedly, CCF was more in anemic mothers of both types but the difference was not specifically more in hemoglobinopathically anemic mothers.

As regards the babies born to the mothers with hemoglobinopathies, the incidence of neonatal septicaemia was significantly higher. This higher incidence could be explained by a higher incidence of preterm babies, IUGR and instrumental deliveries in this group.

Fleming and Lee (1983) reported a higher incidence of fetal asphyxia in these babies. This was borne out in the present study, also.

CONCLUSION

As regards the puerperal morbidity in mothers with hemoglobinopathies and babies born to them, it is found that wound gapings, delayed uterine involution & sickle crisis was significantly more in these mothers. On the other hand, septicaemia birth asphyxia, low PCV & neonatal anemia was more in babies born to these mothers.

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