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MATERNAL AND NEONATAL OUTCOME OF ANAEMIA IN PREGNANCY: A PROSPECTIVE STUDY

Gynaecology

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ABSTRACT

Background: Anaemia is the commonest hematological disorder in pregnancy in developing countries.It is associated with high incidence of preterm birth and other complications to mother and fetus.

Materials and Methods: A prospective Study was conducted in Government B J Medical college Pune during the period of 2 years from october 2013 to october 2015. 200 pregnant women whose haemoglobin were less than 8gm% had been included in this study to determine the maternal and neonatal outcome of pregnancy in severe anaemia and determine the cause of anaemia.

Results: Total 200 pregnant women were taken during study period. They were devided into 2groups.156 cases(78%) had haemoglobin concentration of 5.1-8gm/dl and 44 cases (22%) had haemoglobin less than 5gm/dl. 67% of women with Hb(less than 5gm%) were unregistered,while 89% women were registered in group2 with Hb(5.1-8gm%).Majority of the patients were from low socioeconomic status. Most of the severly anaemic patients were third gravidas . In both groups anaemia was diagnosed mostly at gestational age between 28 to 36 weeks. Microcytic hypochromic picture was commonly found. The commonest cause of anaemia in pregnancy was iron deficiency anaemia. The most commonly observed complications in the study were pre eclampsia and eclampsia (46 cases),preterm labour (46 cases) and IUGR (30cases).In many cases there were combinations of complications like pre eclampsia and IUGR and preterm labour and pre eclampsia with IUGR. Postpartum haemorrhage ,Episiotomy wound and LSCS wound infection were the most commonly observed postpartum complications.Low birth weight was most common perinatal complication. 4.54% of severely anaemic patients had maternal death.

Conclusions: Most of the anaemic patients were unregistered and they were from low socioeconomic strata. iron deficiency anaemia was the commonest type of anaemia. Anaemic mother had very high incidence of complications.The most commonly observed complications in this study were preterm labour,pre-eclampsia and eclampsia and IUGR. . Postpartum haemorrhage, Episiotomy and LSCS wound infections were the most commonly observed postpartum complications. Neonatal sepsis,respiratory distress,pneumonia and jaundice were seen in preterm babies. Thus the above study reveals that severe anaemia which is commonly observed in pregnancy in our country, gives rise to maternal and perinatal morbidities and mortalities. Therefore anaemia in pregnancy is definitely a high risk group needs aggressive antenatal treatment to decrease maternal and neonatal morbidity and mortility.

KEYWORDS:

Anaemia in pregnancy,maternal and neonatal outcome,obstetrics complications

INTRODUCTION:

Anaemia is the commonest haemotological disorder ocurring in pregnancy in India. It effects 1.62 billion people globally, corresponding to 24.8% of the world population[1] .W.H.O. defines anaemia in pregnancy as haemoglobin concentration of less than 11 gm/dl and haemotocrit of less than 0.33[2]. . The cut off point suggested by the United State centre for disease control is 10.5gm/dl in the second trimester. WHO has estimated that prevalence of anaemia in pregnant women is 14% in developed countries, 51% in developing countries and 65-75% in India[3]Iron deficiency is the most common cause and even in the developed world[4], an estimated 30-40% of pre-school children and pregnant women have iron depletion. The incidence is more in rural population and in women belonging to poor socio-economic group, poor nutrition thus being the leading cause of anaemia. Other causes are worm infestation, frequent pregnancies at short interval, excess loss of blood at previous deliveries or during menses, bleeding piles, peptic ulcer, chronic infection and other blood dyscrasias, malaria etc.

in severe anaemia, mother develops complications like cardiac failure, pre-eclampsia,accidental haemorrhage, puerperal sepsis and postpartum haemorrhage.Prematurity, stillbirths, neonatal deaths and congenital malformations are the complications in the baby. Seriousness of anaemia lies in the fact that it accounts for 20-30% of maternal mortality and in another 20% it is associating factor in maternal deaths[5] and accounted for 29% of perinatal deaths.

Method:

It was a hospital based prospective Clinical Study conducted on patients receiving obstetrics care at Government General Hospital from October 2013 to October 2015. 200 pregnant women whose haemoglobin was less than 8gm% had been included in this study to determine the outcome of pregnancy in severe anaemia and determine the cause of anaemia. All the study group patients with Hb less than 8gm% were admitted. A detailed assessment of patient was performed including History, general examination and obstetric examination. Routine investigations during antenatal visits were done.Informed consent to participation was taken during initial assessment, appropriately treated with oral/parenteral haematinics or blood transfusion. After being adequately treated, these patients were followed till they deliver and the maternal and neonatal outcome of the pregnancy were noted.

Inclusion criteria:

1.All consenting pregnant women whose Haemoglobin concentration was less than 8gm% irrespective of gestational age
2.Pregnant women of any parity.

Exclusion criteria:

1.Acute cases of obstetrical haemorrhages as in antepartum and postpartum haemorrhages.
2.All medical and surgical high risk factors except anaemia

RESULT:

Total 200 pregnant women were taken during study period. They were devided into 2 groups.156 cases(78%) had haemoglobin of 5.1-8gm/dl and 44 cases (22%) had haemoglobin less than 5gm/dl.

Table1: Distribution of cases according to haemoglobin at presentation:

Grade of Anaemia	Hb in gm%	Total	%
Group 1	≤ 5	44	22
Group 2	5.1-8	156	78

Table 2 : Distribution of patients on the basis of ANC registration:

ANC Registration	HB≤5gm%	HB(5.1-8gm%)	Total
Registered	16	136	152
Unregistered	28	20	48
Total	44	156	200

67% of women with Hb(less than 5gm%) were unregistered,while 89% women were registered in group2 with Hb(5.1-8gm%).

Majority of the patients were from low socioeconomic status with

95.45% of patients with Hb less than 5gm% and 93% of patients with Hb between 5.1-8gm% belonging to class IV and V of the modified B. G.Prasad classification[6].

Table 3: Extent of antenatal care available:

No of ANC visits	HB≤ 5 gm%	HB (5.1-8 gm%)	Total
>4 visits	3	36	39
≤4 visits	13	100	113
Emergency admission	28	20	48
Total	44	156	200

In group 1 patients with Hb (less than 5gm%) 63.6% came first time in labour room. In group 2 64% patients had less than four ANC visits.

Table 4:Distribution of patients according to causes of anaemia:

In both group of patients the commonest cause of anaemia in pregnancy was iron deficiency anaemia.

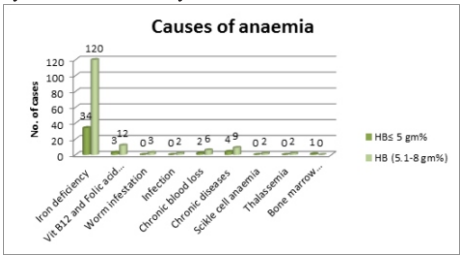

Figure 1: showing comparison of both groups of patients according to cause of anaemia.

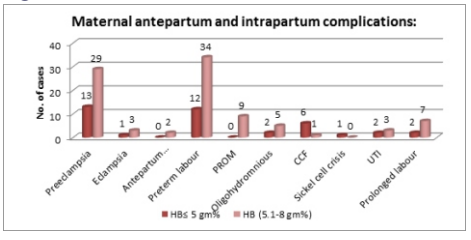

Figure 2 showing comparison of antepartum and intrapartum complications between group1 and group 2.

The most commonly observed complications in the study were pre eclampsia and eclampsia (46 cases), preterm labour (46 cases) and IUGR (30cases).In many cases there were combinations of complications like pre eclampsia and IUGR and preterm labour and pre eclampsia with IUGR.

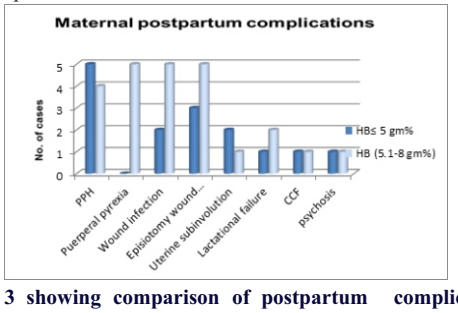

Figure 3 showing comparison of postpartum complications between group 1 and group 2

Postpartum haemorrhage ,Episiotomy wound infection and LSCS wound infection were the most commonly observed postpartum complications.

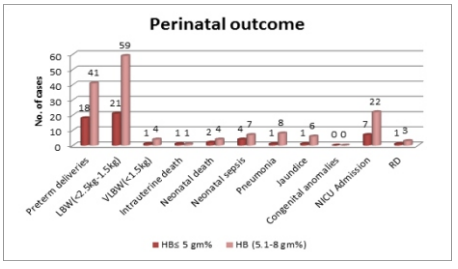

Figure 4 showing comparison of perinatal outcome in both group:

In group 1 there were 22 babies weighing less than 2500 grams which included 18 preterm babies and rest had intrauterine growth restriction. In group 2 there were 63 babies weighing less than 2500 grams which included 41 preterm babies and rest had intrauterine growth restriction. 4.54% of patients with very severe anaemia had maternal death

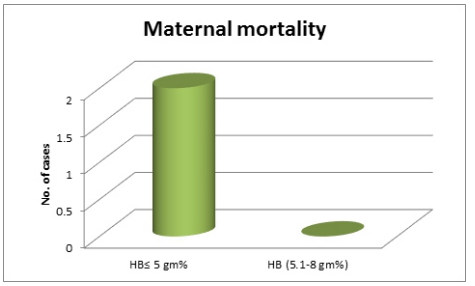

Figure 5 showing comparison of maternal death in group 1 and group 2.

Discussion:

Present study was a prospective, clinical, observational study, conducted in tertiary care center Pune, India to determine the outcome of pregnancy in patients with moderate to severe anaemia with haemoglobin <8gm/dl as the cut off limit for the study, because available data from India and elsewhere indicates that maternal morbidity and perinatal mortality rates are higher in women with Hb <8gm/dl.In my study 78% of patients had moderate anaemia and 22% of patients had severe anaemia. In the study by **Virender P, Gautam(2002)**[7] 22.8 percent had severe anaemia.In study 93% of severe anaemic patients were falling in class IV and V of socioeconomic status .In the study conducted by **Ahmad N and Kalakoti P (2010)**[8] highly significant association was found between severity of anaemia and socio-economic status. In the study of **R. G. Vivek, A. B. Halappanavar (2012)**[9] risk of developing anemia in pregnant women with 3–5 pregnancies is increased when compared with those who had less than 3 pregnancies.In study Iron Deficiency anaemia was most common followed by Dimorphic. **Awasthi A et al (2001)**[10] studied that most common type of anemia was microcytic anaemia followed by dimorphic anaemia. The greater the severity of the anaemia in pregnancy, the greater the risk of preeclampsia, preterm delivery, LBW and stillbirth[11]. The susceptibility of women with severe anaemia to pre-eclampsia could be explained by a deficiency of micronutrients and antioxidants. Study of **Kaima A Frass (2015)**[12] supports the association between anaemia and the risk of Postpartum haemorrhage, The most commonly encountered complications in the study patients were postpartum haemorrhage(11.36%).In the study of **Kalaivani, K. (2009)**[13] the risk of preterm delivery increased significantly with the severity of anaemia. In our study Preterm deliveries was observed in 40.9% of patients in group 1 and 26.28% of patients in group 2.

Conclusion:

The burden of anemia in pregnant population is still high in India , gives rise to maternal and perinatal morbidities and mortalities. Therefore anaemia in pregnancy is definitely a high risk group needing aggressive antenatal treatment than the nonanaemic antenatal patients. Hence antenatal registration and correct and early diagnosis and treatment of anaemia in pregnancy by various national and state level programs with improved outreach, can lead to a remarkable improvement in the pregnancy outcome and lay the foundation for the healthy populations. In the present era no mother should ever die from a 100% preventable condition like anaemia, and most important thing is, it can be achieved if individual, medical and paramedical staff decides so.

References:

1. McLean, E., Cogswell, M., Egli, I., Wojdyla, D., & de Benoist, B. Worldwide prevalence of anaemia, WHO Vitamin and Mineral Nutrition Information System, 1993-2005. Public Health Nutrition, 12(4), (2009), pp. 444–54.
2. Sharma JB. Nutritional anaemia during pregnancy in non-industrialized countries: Progress in obstetrics and gynaecology . 15th edition .Spain; Charchill Livingstone; 2003.p.103-11.
3. DeMayer EM, Tegman A. Prevalence of anaemia in the World. World Health Organ Qlty 1998; 38 : 302-16.
4. Centers for disease Control ,Criteria for anemia in children and childbearing aged women .MMWR 1989;38:400-4.

5. Lawson JB. Anaemia in pregnancy. In: Lawson JB, Stewart DB, editors. Obstetrics and gynaecology in the tropics. London: Edwards Arnold; 1967
6. Shankar Reddy Dudala , K Ashok Kumar Reddy , G Ravi Prabhu; Prasad's socio-economic status classification- An update for 2014 International Journal of Research in Health Sciences. Jul–Sept 2014 Volume-2, Issue-3.
7. Virender P, Gautam, Bansal Y, Taneja DK and Saha R Prevalence of Anaemia Amongst Pregnant Women and Its Sociodemographic Associate in Rural Area in Delhi, Indian Journal of Community Medicine, Vol(XXVII), 4(2002
8. Ahmad N, Kalakoti P, Bano R, Syed MMA .The prevalence of anaemia and associated factors in pregnant women in a rural indian community . AMJ 2010,3,5,276-280 Doi 10.4066/AMJ.2010.286
9. Viveki RG, Halappanavar AB, Viveki PR, Halki SB, Maled VS, Deshpande Al Ameen PS. Prevalence of Anaemia and Its Epidemiological Determinants in Pregnant Women J Med Sci. 2012; 5 (3): pp.216 -223
10. Awasti A, Thakur R, Dave A , "Maternal and perinatal outcome in cases of moderate and severe anemia", Journal of obst. And Gynaecol of India, Vol. 51, No. 6, Nov-Dec. 2001, pp. 62-65
11. AbdelAziem Ali., Rayis, D. A., Abdallah, T. M., Elbashir, M. I., & Adam, I. Severe anaemia is associated with a higher risk for preeclampsia and poor perinatal outcomes in Kassala hospital, eastern Sudan. BMC Research Notes (2011).
12. Kaima A Frass: Postpartum haemorrhage is related to the haemoglobin level at delivery; Alexanderia journal of Medicine:volume51,issue 4 December 2015;pp.333-337
13. K Kalaivani. Prevalence and consequences of anaemia in pregnancy. Indian Journal of Medical research November 2009; 130:pp 627-633