

Iron Deficiency Anemia during Pregnancy: A Major Public Health Problem

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Abstract:

Aim: To find the prevalence of anemia in pregnancy this needs admission for treatment of anemia and to overview the management of anemia in tertiary care center.

Methods: It is a prospective study conducted at Sri Krishna Medical College & Hospital, Muzaffarpur, in Department of Obstetrics and Gynecology during May 2019 to October 2019 among antenatal women attending OPD. Women with anemia requiring admission for management of anemia included in our study.

Results: In 6 months study period 3766 women attended antenatal OPD. Only 96(2.54%) women needed admission for anemia correction .Among 96 women,49(51%) managed with parenteral iron injection and 47(49%)women managed with blood transfusion.

Conclusion: In our Institution, all antenatal women are provided with nutritional counselling and supplemented with Iron Folate and hence percentage of women requiring admission for treatment of anemia is less. Proper nutritional advice and Iron Folate supplementation during antenatal period reduce the need for admission for anemia correction.

Keyword: Iron Injection, Iron Folate, Nutritional Advice.

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Introduction

Anemia in pregnancy is a global public health challenge. The WHO defines anemia as presence of hemoglobin of less than 11 g/dL and hematocrit of less than 0.33 g/dL [1]. Centre of Disease Control has defined anemia as hemoglobin levels below 11 g/dL in pregnant woman in first and third trimester and less than 10.5 g/dL in second trimester [2]. Highest proportion of anemia in pregnancy is in Africa and Southeast Asia.

Among Southeast Asia, India has highest prevalence of anemia in pregnancy [3]. Despite the fact that Iron deficiency anemia is easily diagnosed and treated, it continues to be major public health issue. Iron deficiency anemia is a significant problem throughout the world with a prevalence ranging from an average of 14% of pregnant women in industrialised countries to average of 56%in developing countries [1].

WHO recommends universal iron supplementation comprising of 60 mg elemental iron and 400 microgram of folic acid once or twice daily for 6 months in pregnancy in countries with prevalence

of anemia less than 40% and an additional 3 months postpartum in countries where prevalence is greater than 40%.

Materials and Methods

It is a prospective study conducted at Sri Krishna Medical College & Hospital, Muzaffarpur, Bihar in Department of Obstetrics and Gynaecology during May 2019 to October 2019 among antenatal women attending OPD. Anemia is considered according to WHO as hemoglobin less than 11gm % in pregnant women and according to ICMR (Indian Council of Medical Research), Anemia is graded as mild (10 to 10.9gm %), moderate (7 to 10gm%), severe (less than 7 gm %).

Those antenatal and postnatal women requiring admission for correction of anemia included in the study. Ethical clearance was obtained from internal management committee. Study done to overview the management of anemia in a tertiary care center. Results are shown in tables.

Results

Table 1: Age Group and Anemia

Age Group	No. Requiring Blood Transfusion	G Blood Iron Sucrose Transfusion	Total
Less Than Or Equal To 20 Years	3	2	5
20 To 30 Years	36	35	71
Greater than 30	8	12	20
Total	47	49	96

Table 2: Working Status and Anemia

Employed	Unemployed
48	48

Table 3: Parity and Anemia

Parity	No. of Women Corrected with Iron Sucrose	No. of Women Corrected with Blood Transfusion	Total
Primi	21	11	32
Multi	28	36	64

Table 4: Gestational Period and Anemia Correction

Gestational Period	Anemia correction with Iron sucrose	Anemia correction with blood transfusion	Total
Antenatal	29	22	51
Post Natal	9	12	21
Post LSCS	11	13	24

Table 5: Blood Groups of Anemic Women

Blood Group	No. of Women
O Positive	17
B Positive	13
A Positive	12
Ab Positive	3
A Negative	1
O Negative	1

Discussion

In our study, majority of anemic women are between age group 20 to 30 years. This is the age group where majority of women get married and complete the family. According to shaikh subina et al [4], prevalence of anemia in all age group is higher in India as compared to other developing countries.

There is no difference between working and non-working group. Multiparous women require admission for anemia correction when compared with primipara. This correlates with study by J.G. Chopra et al in which incidence of anemia increase after 2nd pregnancy. We found number of patients requiring admission for anemia correction is less, only 2.54%.this is because in our hospital routine nutritional advice given to all pregnant women and adolescent girls and they are provided iron folate supplements. Among 96 admissions,49 (51%) required iron sucrose injections and 47 (49%) required blood transfusion. Among 49 women requiring iron sucrose, 29 (59.18%)are antenatal and 20(40.81%) are postnatal.49 patients required parenteral iron injection due to noncompliance with

oral iron due to side effects of gastritis and vomiting. All tolerated parenteral iron injection except few minor reactions like chills and rigors. Rate of increase in hemoglobin is also faster in all women. [5,6,7]

Majority of studies done revealed intravenous iron sucrose (IVIS) have no major side effects. IVIS is safe and effective in treatment of iron deficiency anemia during pregnancy. Iron stores increased better with IVIS than with oral iron. IVIS corrects anemia in shorter duration and replenishes iron stores better than oral iron. According to studies by syenneeru [5], rate of increase in hemoglobin is faster and IVIS is suitable for treatment of iron deficiency anemia with lower hemoglobin in third trimester.

According to Al momen et al [6],IVIS achieved higher hemoglobin in shorter period. Among 49 patients, 20 required postnatal correction of anemia with iron sucrose. According to Christopher M. Nash et al [7], parenteral iron is associated with more rapid rise in serum ferritin and hemoglobin. It may also decrease rates of blood transfusion. According to KS Gowtham [8]use of parenteral

iron is associated with faster increase in hemoglobin and better replenishment of iron stores in comparison with oral iron. 47 patients transfused with blood for anemia correction. There were no blood transfusion reactions. Among 47 women requiring blood transfusion, 22(46.80%) are antenatal and 25(53.19%) are postnatal. Blood transfusion can be a lifesaving procedure but it has risks including infectious and non-infectious complications. Obstetric conditions associated with need for blood transfusion may lead to morbidity and mortality if not managed correctly. Important issues in blood transfusion are adverse events associated with transfusion.

According to RCOG green top guideline 479, no firm criteria for initiation of red cell transfusion. Decision to perform blood transfusion should be made on both clinical and hematological ground. Blood transfusion is almost always required when hemoglobin less than 6gm%.

Conclusion

Despite the fact that iron deficiency anemia is easily diagnosed and treated; it continues to be major public health problem. Postpartum anemia is most commonly associated with antepartum iron deficiency combined with blood loss at delivery. If national anemia prophylaxis programme is implemented properly, anemia during pregnancy will be prevented and active management of third stage of labour is important to reduce blood loss at delivery and hence reduce postpartum anemia. If anemia management is done properly during antenatal and postnatal period, maternal mortality and morbidity will be prevented.

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