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Prevalence of Anemia in Antenatal Pregnant Women Attending OPD of Skims Soura

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Abstract
Anemia is defined as decrease in oxygen carrying capacity of hemoglobin. According to WHO anemia is defined as Hb <11g/dl Plasma volume expansion occurs in pregnancy by 50% but RBC Volume increases only by 30% as a result there is fall of Hb by 2g/dl in pregnancy. Iron requirement in 2nd trimester of pregnancy is 4-6mg/dl and in 3rd trimester it is 6-8 mg/dl which if not supplemented leads to iron deficiency anemia.
Methodology: *this study included 600 patients from which venous blood sample was taken in EDTA vail and later all investigation were carried; CBC, PBF, iron studies, v12 levels, red cell folate levels. Anemia was classified Morphologically, on the basis of severity.*
Results: *Prevalence of anemia in our study was 30%. In our study iron deficiency anemia was most common, it was more in age group of 20-30years, more in multiparas, and in rural population, and more in 3rd trimester and was of moderate type anemia.*
Conclusion: *Owning to high prevalence of anemia in our study so we need diagnose anemia early, treat it at earliest stage. Besides this we have reduce eitilogical factors of anemia like deworming of patients, spacing of pregnancies, proper antenatal check ups, and adopting healthy eating practices.*

Introduction

Anemia is defined as decrease in oxygen carrying capacity of hemoglobin. According to WHO Anemia is defined as hemoglobin less than 11g/dl in pregnancy. According to centre for disease Control (CDC) hemoglobin not be allowed to fall below 10.5g/dl in second trimester of pregnancy taking into account the physiological changes of pregnancy[(1)]

According to figures India belongs to high prevelance area >40%[(2)]. Iron deficiency anemia starts in childhood, worsens in adolescence and gets aggrated in pregnancy.

Pregnancy causes a state of plethora. Plasma volume expands by 50% but R. B. C volume increases by 30% resulting a state of hemodilution by 15% and decrease in hemoglobin by 2 g/dl[(3)] Thus peripheral blood film shows normocytic Normochromic anemia and it is known as physiological anemia of pregnancy. This decrease in blood viscosity is beneficial for two reasons; firstly it facilates increased Blood flow through

placenta and secondarily it protects against hazards of blood loss at the time of delivery.

Iron demand in 2nd trimester of pregnancy is 4-6mg/day and 6-8 mg/dl in third trimester. Because of this increased demand of iron, absorption is increased from 7.2% in 1st trimester to 66% in 3rd trimester.[4]

For formation of R. B. C not only iron is required but also folic acid, vitamin B12, trace of zinc and copper is required.

Iron deficiency anemia when occurs in pregnancy is associated With low birth weight and preterm delivery[5,6,7]. Serum feritin is a sensitive marker for iron deficiency anemia and it's level falls in case of iron deficiency anemia in pregnancy.

The main objective of this study was to study the prevelance of iron deficiency anemia in antenatal Population of SKIMS soura.

Methodology

It was a hospital based study carried in department of Gynea/obstetrics from year 2017-2018 in maternity hospital of skims soura. A total of 600 cases were included in this study. Informed consent was taken from all patients. Permission was taken from Ethical committee.

Thorough history was taken from all antenatal cases including Age, gravida, para, occupation, residence, dietary history, personal

History, family history, history of previous Mennorrhgia, bleeding P/R, passage of worms, history/of malabsorption, bleeding diathesis.

General examination was done pallor, icterus, cyanosis, kilonychia, cheilosis, glossitis, heart murmurs, ankle oedoma, hypotension.

The basic work up of consisted of obtaining a venous sample in EDTA vail from all 600 patients irrespective of gestational age, and samples were send to department of pathology for determination of;

Complete blood count

Peripheral blood film

Reticulocyte count.

Peripheral blood fil (PBF) is most important tool in diagnosis type of anemia. PBF staining was done by Leishmann stain, morphology of RBC, WBC, platelet was studied. Serum vitamin B12 levels were done as well as red cell Folate level. Hemoglobin less than 11g/dl was taken as anemia. Morphologicaly anemia was Classified as

1.Normocytic normochromic

2.Microcytic hypochromic

3.Macrocytic

4.Dimorphic

Depending on Severity Anemia was Classified as

Mild Anemia: Hemoglobin 8-10.9g/dl

Moderate Anemia: Hemoglobin 5 -7.9g/dl

Severe Anemia: Hemoglobin less than 5g/dl

Inclusion Criteria

All pregnant women from 20-40 years of age.

Exclusion Criteria

Pregnant Women >40 years

Pregnant women with h/o antepartum hemorrhage

Pregnant women with bleeding diathesis

Pregnant women with chronic medical diseases.

Results

Total no. of patients in our study = 600

No. of patients with anemia = 300

Prevelance of anemia= 30% in our study

Distribution of Anemia According to age Group

Age Group	No. of Patients	Percentage
18-20 YR	90	30%
20-30 YR	180	60%
30-40YR	30	10%

Thus anemia was most common in age group of 20-30 yr

Distribution of Anemia According to Parity

Parity	No. of Patients	Percentage
PRIMI	30	10%
Multi	60	20%
Grand multi	210	70%

Thus anemia was more common in grand multi

Distribution of Anemia according to Residence

Residence	No. of Patients	Percentage
Rural	180	60%
Urban	120	40%

Thus anemia was more common in rural areas than urban

Distribution of Anemia According to Gestational Age

Gestational age	No. of patients	percentage
IST TRIMESTER	60	20%
2nd TRIMESTER	60	20%
3rd TRIMESTER	180	60%

Thus anemia was more seen in 3rd trimester in our study.

Distribution of Patients According to Severity of Anemia

Type of Anemia	No. of Patients	Percentage
Mild anemia	90	30%
Moderate anemia	180	60%
Severe anemia	30	10%

Majority of patients in our study were having moderate anemia.

Distribution of Patients according to type of Anemia

Type of Anemia	No. of Patients	Percentage
Normocytic normochromic	30	10%
Microcytic hypochromic	150	50%
Macrocytic	30	10%
Dimorphic	90	30%

Most common type of anemia in our study was microcytic hypochromic.

Discussion

Prevalence of anemia in our study was 30% while as prevelance of anemia in Ghanaian population[8] was 54%.According to WHO india belongs to high Prevelance area. In our study most common type of anemia was moderate anemia (60%). In study by Rajamouli et al[9] mild anemia was seen in 28% Moderate anemia was seen 36.8% and severe anemia in 6.9% of cases.

Mangla etal in his study reported mild anemia in 41.76% of cases, moderate anemia in 37.05% and severe anemia in 15.88% and very severe anemia in 3.29% of cases[10]. The relative risk of maternal mortality associated with moderate anemia (Hb 4-8) is 1.35 and for severe anemia (Hb <4.7) is 3.51[11]

In our study the most age group was 20-30 years (60%) followed by 18-20 yr(30%)

In Bereka et al[12] mean age was 22.9 years and in Mangla etal[10] mean age group was 26.17 years.

In our study if we go towards association of anemia towards gestational age we can see there is high prevelance of anemia in 3rd trimester, compared to 1st and 2nd trimester. Similar association of anemia with gestational age is shown by studies[13,14,15], this is explained on the basis of the fact that plasma volume expansion reaches its maximum at 32-34 weeks due to hemodilution[16,17].

In our study prevelance of anemia was more common in rural areas (60%) than Urban areas(40%) Most common type of anemia in our study was microcytic hypochromic (50%) followed by dimorphic (30%), macrocytic (10%) and normocytic normochromic (10%)

Conclusion

Since the prevelance of anemia in our study is high 30% so need of hour is early diagnosis of anemia, typing of anemia by appropriate investigations and treatment according to stage of gestation. Besides this we have to educate people regarding dietary habits, importance of proper antenatal check up's, avoiding rapidly occurring Pregnancies, spacing of atleast 2 years., besides this we should go for deworming of anemic patients early in pregnancy.

Bibliography

1. Centres for Disease Control and prevention. CDC criteria for anemia in children and child bearing aged women. Morb Moral wkly Rep 1989;38:400
2. de Benoist B etal (eds). Worldwide prevelance of anemia 1993-2005.WHO Global Database on anemia Geneva. World Health Organization, 2008.
3. Koller O. The clinical significance of hemodilution during pregnancy. Obstet Gynecol Surv 1982:37:649
4. Barrett JF, Whittaker Pg, Williams JG, etal. Absorption of non heam iron from food during normal pregnancy. Br Med j 1994;309:79
5. Brabin L, Brabin BJ and Gies S. Influence of iron status on risk of maternal or neonatal infection and on neonatal mortality with an emphasis on developing countries. Nutrition Reviews 2013;71(8), 528-540
6. Kozaki N, Lee Ac, Katz j, child health Epidemiology Reference Group. Moderate to Severe, but not mild, maternal anemia is associated with increased risk of small for gestational age outcomes j Nutr. 2012; 142:358-62. doi:10.3945/ju.111.149237
7. Rao R, and Georgieff MK. Iron in fetal and neonatal nutrition. In Seminars In fetal and Neonatal Medicine. 2007;12(1) :54-63.WB Saunders.
8. Stevens GA, Finucane MM, De -Regil LM, Paciorek CJ, Flaxman SR, Branca F etal. Global, regional, and national trends in hemoglobin concentration and prevelance of total and severe anemia in children and pregnant and non pregnant women for 1995_2011: a systematic analysis of population representative data. Lancet Glob Health. 2013;1:E 16-E25. doi:10.1016/S2214-109X(13) 70001-9
9. Rajamouli J, Ravinder A, Reddy Sck, pambi S. Study on prevelance of Anemia among pregnant Women attending antenatal clinic at Rural Health Training centre (RHTC) and Chalmoda Anand Rao. Institute of Medical Sciences Teaching Hospital, Karimnagar, Telangana. Int j contemp Med Res. 2016;3(8) :2388-91
10. Mangla M, Singla D. Prevelance of anemia among pregnant women in rural India:a longitudinal observational study. In j Reprod contracep obstet Gynecol. 2016;5(10) :3500-5
11. Brabin B, Prinsen -Geerligs P, verhoeff F, Karzembe P. Anemia prevelance for reduction of mortality in mothers and

children. Trans R Sec Trop Med Hyg. 2003 jan -feb;97(1) :36-38

12. Bereka SG, Gudeta AN, Reta MA, Ayana LA. Prevelance and associated risk factors of anemia among pregnant women in rural part of jigjiga city, Eastern Ethiopia : a cross sectional study. J Preg child health. 2017;4(337) :2
13. Bencaiova G, and Breymann C. Mild anemia and pregnancy outcome in a Swiss collective. Journal if pregnancy, 2014
14. Yildiz Y, ozgu E, unlu SB, Salman B, and EyiEGY. The relationship between third trimester maternal hemoglobin and birth weight /length :results from the tertiary centre in Turkey. The Journal of Maternal - Fetal and Neonatal Medicine. 2014 27(7), 729-732
15. Ren A, Wang j,Ye RW, Li S, Liu JM, and Li Z. Low first trimester hemoglobin and low birth weight, preterm birth and small for gestational age Newborns. International journal of Gynecology and obstetrics. 2007;98(2) ;124-128
16. Milman N, Byg KE, Agger AO. Hemoglobin and erythrocyte indices during normal Pregnancy and postpartum in 206 women with and without iron supplementation. Aeta obstet Gynecol Scand 2000;79:89
17. Mukhopadhyay A, Bhatla N, Kriplani A etal. Erythrocyte indices in pregnancy: Effect of intermittent iron supplementation. Nat Med j Ind 2004:17:135
18. Sifakis S, Phamakides G. Anemia in pregnancy. Ann New York Academy SCi. 2000;900n (1) :125-36.