

Frequency of anemia among patients of abruptio placentae

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Objective: To determine the frequency of anemia and need for blood transfusion in patients of placental abruption.

Methodology: This prospective cross sectional study was conducted at Department of Obstetrics & Gynecology for a period of 15 months from September 2010 to December 2011. All pregnant ladies who presented with Abruptio Placentae were included by completing a proforma for each patient. After confirming the diagnosis, the blood of these patients was sent to laboratory for hemoglobin level, blood group and other routine investigations. According to hemoglobin level and the amount of bleeding, the number of blood units required by each patient was recorded. The data was analyzed on SPSS v 15.

Results: 100 patients suffering from placental abruption were studied. 83% ladies were anemic and 61 were moderate to severely anemic. 98% received blood transfusion and 91% received 1-4 units of blood.

Conclusion: Majority of patients presenting with placental abruption were found to be anemic and required multiple blood transfusions. The association between anemia and placental abruption is well documented, however, it needs to be established whether anemia leads to abruption or anemia is the consequence of abruption. (Rawal Med J 2013;38:56-58).

Key words: Anemia, abruptio placenta, blood transfusion.

INTRODUCTION

Normal hemoglobin varies with age, gender and physiological status e.g. during pregnancy.¹

Pregnant women with hemoglobin below 11g/dl at sea level are classified as anemic by WHO. Anemia is a moderate to severe public health problem for pregnant women in over 80% of the countries and its prevalence in pregnant women in Southeast Asia region is 48.2%.² Approximately 47% of non-pregnant women and 60% of pregnant women worldwide are anemic.² The anemia affects performance during pregnancy, delivery and lactation as well as working capacity, general well-being, and immunity status.³ Severe maternal anemia carries significant risk of hemorrhage and infection in the mother and is associated with preterm birth, low birth weight and high perinatal mortality.⁴ Placental abruption has been shown to be significantly associated with maternal anemia.⁵⁻⁷ This cross sectional study was carried out at a tertiary care hospital to identify the frequency of anemia in patients suffering from abruptio placentae in our population.

METHODOLOGY

All the pregnant ladies presenting in emergency with signs and symptoms of abruptio placentae were entered into this study after taking history, performing physical examination and ultrasound of abdomen and pelvis. Hemoglobin level (Hb), blood group and other investigations like CBC, BT, CT, PT, APTT, blood sugar, urea and creatinine were performed. All the data was entered into a patient information form. These patients were followed through resuscitation (if required), process of delivery (spontaneous or cesarean) till their discharge from hospital. Hemoglobin more than or equal to 11g/dl was considered as normal, 9-11 g/dl was considered as mild anemia, 7-9 g/dl was considered as moderate anemia, 5-7 g/dl was considered as severe and less than 5g/dl was considered as very severe anemia.

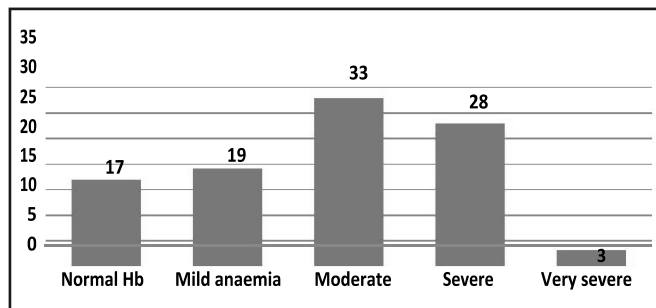
The abruptio placentae was graded according to the clinical classification, as mild (amount of vaginal bleeding less than 100ml), moderate (amount 100-500ml) and severe (amount more than 500ml). Other criteria like uterine tone, fetal heart rate,

coagulopathy and maternal status were also considered.⁸ The number of blood transfusions given to each patient was recorded. The results were analyzed using SPSS v 15.

RESULTS

Out of 100 patients, 83% were anemic and 61 were moderate to severely anemic (Fig 1). 24% patients had mild abruption, 58% had moderate abruption and remaining 18% were in severe category. Patients of mild abruption with normal Hb (11g%) or mild anemia received 1-2 blood transfusions, those in moderate category received 2-3 blood transfusions, whereas of severe category received 4 or more transfusions.

Fig 1: patients in different grades of anemia.



Overall, 98% received blood transfusion and majority (91%) of them received 1-4 units of blood (Table 1). O+ve was the commonest (42%) blood group.

Table 2: Number of transfusions.

Number of Transfusions	Number of patients	Percent	Cumulative Percent
0	2	2	2
1	15	15	17
2	40	40	57
3	21	21	78
4	13	13	91
5	4	4	95
6	2	2	97
9	1	1	98
11	1	1	99
40	1	1	100
Total	100	100	

DISCUSSION

We found that 83% of patients suffering from placental abruption in this study were anemic and 61% were moderate to severely anemic. Only 17% had ~ 11 grams hemoglobin. Most of the studies in literature have reported that the anemia in patients suffering from abruptio range between 70 and 100% and our study correlate with these (Table 2).

Table 2: Comparison of different studies showing No: and % of anaemic patients.

	Author	Year of study	Number of patients With Abruptio/ APH	Number of anemic patients	Percentage
1	Bibi S	2009	106	84	79%
2	Qamarunnisa	2010	84	59	70%
3	Singhal SR	2008	226	226	100%
4	This Study	2012	100	83	83%

Many studies have associated placental abruption with anemia and have shown the anemia as a major risk factor for abruption. Arnold DL et al reported that maternal iron deficiency anemia in early pregnancy was associated with 3.60-fold increased risk of abruption.⁷ Shazia et al⁹ and Sarwar et al¹⁰ have also associated anemia with abruption. Similarly, Talpur et al¹¹ and Liaquat et al¹² have shown association of anemia, besides other factors with abruption. It requires a separate prospective study to establish whether the anemia leads to abruption or anemia is its consequence.

The adverse effects of anemia associated with placental abruption in the mother and fetus have been much studied and documented in the literature. Bibi et al have shown 54% still birth rate in their study and concluded that poor perinatal outcome like high intrauterine deaths, prematurity and low birth weight were the factors responsible for fetal loss.¹³ Levy et al have concluded in their study that maternal anemia was an independent risk factor for both preterm delivery and low birth weight.⁵ Similarly, Qamarunisa et al have reported an overall perinatal mortality of 40.4% and concluded that abruptio placenta was associated with high maternal and fetal morbidity and mortality.¹⁴ Singh et al have also shown maternal and perinatal mortality of 2.21% and 23.70% respectively and conclude that

there is very high maternal and perinatal morbidity and mortality in APH.¹⁵ Jaleel et al have also concluded that severe maternal anemia carried significant risk of hemorrhage and infection in the mother and it was associated with preterm birth, low birth weight and small for gestational age infants, as well as low APGAR score and high perinatal mortality.⁴ Talpur et al have reported a perinatal mortality of 64%¹¹ and Fatima et al had a perinatal mortality of 62.5%.¹²

The need for blood transfusion was 50% in the anemic patients with abruption in the study by Bibi et al¹³ whereas 78.77% women needed transfusion in the study of Singhal et al and the need of blood transfusion was one unit, two units, three units, and more than three units in 36, 64, 35 and 43 women respectively.¹⁵ Similarly blood was transfused in 70% of sufferers of abruption ranging between 1-5 units in the study of Talpur et al.¹¹ In our study, 98% patients received blood transfusion 1-2 units (55 patients), 3 units (21 patients), 4 units (13 patients) and more than 4 units (9 patients), hence majority (91%) received 1-4 units (Table I).

CONCLUSION

More than 70% patients suffering from placental abruption were anemic and required multiple blood transfusions. The association between anemia and placental abruption is well documented, however, it needs to be established whether the anemia is a cause or a consequence of abruption.

Author Contributions:

Conception and design: Dr Naila Yousuf
 Collection and assembly of data: Dr Naila Yousuf, Dr Shabnam Naz, Dr Shoaibunissa
 Analysis and interpretation of the data: Dr Naila Yousuf, Dr Shabnam Naz.
 Drafting of the article: Dr Naila Yousuf, Dr Shabnam Naz, Dr Shoaibunissa
 Critical revision of the article for important intellectual content: Prof. Rafia Baloch, Dr Shabnam Naz
 Statistical expertise: Dr Naila Yousuf, Dr Shabnam Naz, Dr Shoaibunissa
 Final approval of the article: Prof. Rafia Baloch
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