ORIGINAL ARTICLE

Role of Blood Components Transfusion in Obstetrics

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ABSTRACT

Appropriate and rational use of blood/components is essential for ensuring availability for the needy as well as preventing risks of transfusion-transmitted diseases and saving resources. The safety, adequacy, and effectiveness can only be achieved if unnecessary transfusions can be prevented. Recombinant factor VII a is a new adjunct for treatment of massive haemorrhage and should be considered, if available. Among all the causes Hemorrhage is leading cause of maternal mortality and intensive care unit admission in obstetrics. Thus, leading cause of maximum transfusion of Blood and Blood component in obstetric Practice.

INTRODUCTION

Obstetric is branch of which requires maximum transfusion of blood and blood components. Modern blood management generally recognize the importance of blood conservation, both from the perspective of the patient, who benefits from the avoidance of an unnecessary transfusion, and society, which benefits from appropriate consumption of limited resources.

In obstetrics, the pregnant woman on the other hand, by virtue of her anatomy and physiology, presents unique challenge to the obstetrician. Discussion on blood and blood components in obstetrics, by its nature, is about obstetrics hemorrhage. Hemorrhage is the leading cause of maternal mortality and intensive care unit admission in India as well as worldwide in obstetrics[1]. In developing country like India, where prevalence of under nutrition and anemia is very high, minimal amount of blood loss during parturition may lead to hemorrhagic shock. In this situation gold standard management is transfusion of blood and blood components, it has become possible to transfuse the components which are necessary. In certain obstetrical conditions (e.g. IUFD, ABRUPTIO DPLACENTA, HELLP Syndrome etc.) where hematological changes are likely to occur, prophylactic transfusion of various component can be considered.

The goal of caring for these women is to obtain a healthy outcome with minimal morbidity for both mother and baby, while minimizing the use of allogeneic blood products. Establishment and maintenance of facilities that allow prompt and appropriate administration of blood and blood components are absolute requirements for acceptable obstetric care. With the use of blood and blood components therapeutically as well as prophylactically can reduce the mortality and morbidity in obstetrics.

AIMS AND OBJECTIVES

Our Aim is to analyze and list out use of blood and blood components at different period of pregnancy and delivery and to study the prophylactic role and response of transfusion of Blood and Blood components.

MATERIALS AND METHODS

In hospital based, prospective study of randomly selected 100 patients, admitted in obstetric department. Which included women with pregnancy, delivery and postpartum period in which blood and blood components were given at our institution from OCTOBER 2016 TO SEPTEMBER 2017 were studied.

History and detailed examination of patients who presented with obstetrics emergency were recorded. Patients were transfused whole blood or blood components as per laboratory and systematically tabulation and charts were made.

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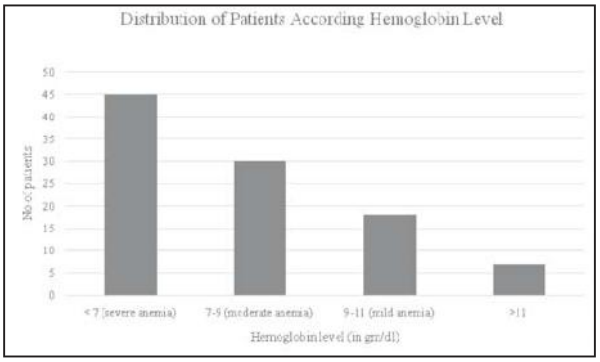
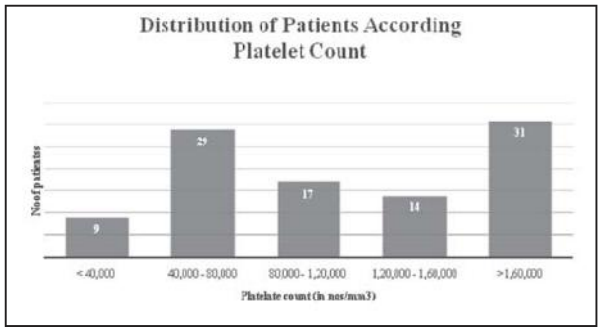
OBSERVATION AND DISCUSSION

In the present study 100 cases were randomly selected, presented in Obstetric department in whom blood and blood components were given at our institution. Out of the total 100 cases, 23 cases were of ante partum, 56 cases were of intra partum and 21 cases were of postpartum. Observation and analysis was carried out.

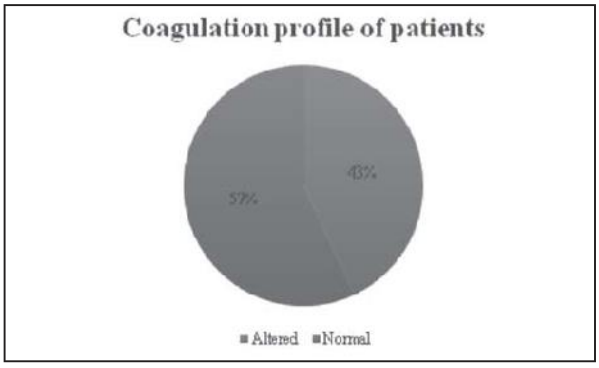
The results of this study are as under:



There is total 93 patients who has anemia. Among which 90 patients has given PCV. Blood is needed for immediate transfusion in cases of excessive hemorrhage at birth with Hb<7g/dl (Kalaivani et al[2]).one common indication of transfusion in woman is severe anemia and prevalence of which south Asian countries is high, highest in India with half of the global maternal deaths due to anemia[3]



In obstetrics patients with microvascular bleeding require platelet transfusion when platelet count is below 50000. In our cases 79 patients were transfused with FFP, while there is 43 patients in altered coagulation profile thus FFP given prophylactically.



Above chart shows that 43 cases had abnormal coagulation profile according to laboratory parameters, which included tests like Prothrombin time (PT), activated partial Thromboplastin time (APTT), fibrin degradation product (FDP) and D- dimer, bleeding time, clotting time and clot retraction time.

Distribution of Pt. According to component given

No. of Pt.	No. of component Given				
Component given	Nil	1 to 5	6 to 10	11 to 15	16 to 20
No of Pt. given Whole Blood	89	11	-	-	-
No. of Pt. GivenPCV	10	86	4	-	-
No. of Pt. given FFP	21	46	25	8	-
No. of Pt. given PRC	21	37	31	8	3

This Table shows that there is only 11 patients whom whole Blood was given there is only 10 patient who not required PCV transfusion and 86 patients were transfused about 6 to 10 PCV.

As along with Massive transfusion to prevent dilutuional coagulopathy PRC was given to 79 Cases. 31 patient had platelet count more than 1,60,000 mm3 of which 16 patient were given PRC on prophylactic Bases.

Diagnosis of Patients in Whom Transfusion Was Done

Diagnosis	No of patients
Direct causes	
PIH and its complication	24
Abruptio Placenta	21
PPH	20
Placenta previa	6
Rupture uterus	5
Uterine inversion	1
Indirect causes	
Severe anemia	43
Thrombocytopenia	13
Jaundice	9
DIC	4
Malaria	1
Sickle cell anemia	1
Von willebrand Disease	1
Thalessemia minor	1
Aplastic anemia	1

Here 43 patients has severe anemia and other major cause is hemorrhagic ,thus obstetric hemorrhage is major cause of perinatal and maternal mortality[4]. Hemorrhage is leading cause of ICU admission[1].

Mode of Delivery

Mode of delivery		No. of patients
Vaginal		45
LSCS		51
InstrumentalDelivery	Forceps	3
	Vacuum	1

Above table and chart shows the mode of delivery in cases of the study. 51 patients delivered by LSCS, 46 by vaginal route and 4 cases had instrumental delivery of which, 3 cases by forceps and 1 by vacuum.

Fetal Outcome and Obstetrics Emergency

Fetal outcome	No. of newborns
Live	73
Still birth	27

Out of 100 deliveries, there were 73 live births and 27 still births. In obstetrics emergency cases there is high fetal morbidity and mortality.

In the present study out of 100 cases there were 7 maternal deaths. cause of death was DIC in 2 cases, eclampsia in 2 cases, PPH in 2 cases, Jaundice in 1 case hepatic encephalopathy.

Distribution of patients according to iron supplementation in cases of obstetrics emergency.

Iron supplementation	No. of patients
Yes	82
No	18

Above table suggests that majority of (82%) patient had taken iron supplementation during their pregnancy and still obstetrics emergency is prevalent in them. According to WHO, most common cause of anemia is nutritional and iron deficiency anemia which contributes about 75-95% which is followed by folic acid and vitamin B12 deficiency[5].

SUMMARY

CONCLUSION

Hemorrhage is the leading cause of maternal mortality and morbidity in developing countries. Proper intra partum monitoring and prediction of complications before they occur. Active management of third stage of labor can minimize the blood loss. Components can be give according to requirement. Blood bank facilities should be available to peripheral health centers. Instead prophylactic administration of blood components has definitive Role and may prevent morbidity and mortality in cases if obstetrics emergency.

REFERENCES

1. RCOG. Blood Transfusion in Obstetrics. Green Top Guideline Number 47. 2007.
2. Kalaivani K. Prevalence & consequences of anaemia in pregnancy. Indian J Med Res 2009;130:627-3
3. India's undernourished children: A call for reform and action, World Bank Report. Available from: http://www. s i t e resources.wor ldbank.org/Health Nutrition Population/ Resources/281627109569814016 7/ India Undernourished ChildrenFinal.pdf. [Last accessed on 2014 Apr]
4. The World Health Report 2005. Make every mother and child count. Available from: http://www.who.int/whr/2005/en. [Last accessed on 2014 Apr]
5. WHO. Micronutrient deficiency: Battling iron deficiency anaemia: The challenge, 2004. Available from: http://www. who.int/nutrition/topics/ida/en/. [Last accessed on 2014 Apr]