

INDICATIONS AND OUTCOMES OF PATIENTS UNDERGOING BLOOD TRANSFUSION IN OBSTETRICS AT A TERTIARY CARE HOSPITAL IN BAGALKOT: A RETROSPECTIVE CASE SERIES .

Obstetrics & Gynecology

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ABSTRACT

Introduction : Anemia and obstetric complications are two main reasons for blood and blood product transfusions in obstetrics in underdeveloped nations like India. A proper blood transfusion lowers maternal mortality and is necessary component in emergency obstetric care. **Objective** : To analyse various indications for transfusion of blood and blood products in obstetrics. **Materials and Methods**: At a tertiary care hospital in Bagalkot, this retrospective record-based case series study was conducted on 100 obstetric patients who received blood transfusions. Following approval from the institutional ethics committee, clinical conditions and indications of blood and blood component transfusion were recorded from hospital records. **Results** : Anemia was the most common reason for blood and blood product transfusions, accounting for 56.4% of cases, followed by postpartum haemorrhage 24.5%, Antepartum Hemorrhage 14.9%, Ectopic Pregnancy 4.3%, HELLP syndrome 3.2%, DIC 3.1%, Severe Pre eclampsia, Scar rupture and MTP were about 1-2%, in a study of 100 patients who underwent transfusion. **Conclusion** : Anemia and obstetric haemorrhage were the most common reasons for transfusion. Most patients were unbooked during pregnancy. Regular antenatal care, early detection and treatment of high-risk pregnancies, obstetric complications and institutional delivery may improve the obstetric outcome and lower the frequency of transfusions.

KEYWORDS

Blood Transfusion

INTRODUCTION

James Blundell, a British obstetrician, administered the first blood transfusion in medical history in 1818 to a patient suffering from postpartum haemorrhage¹. The eight key elements of comprehensive emergency obstetric treatment, which has been proved to lower the rates of maternal death, includes blood transfusion.² Obstetric haemorrhage and anaemia are the two main reasons for blood and blood product transfusions in obstetrics. In developing nations like India, since undernutrition and nutritional anaemia are prevalent, even a small amount of blood loss could result in haemorrhagic shock and need blood transfusion.

In obstetric practice, disorders related with the requirement for blood transfusion can result in morbidity and mortality if not managed effectively, thus blood transfusion has been proven and documented to be life-saving.

More than 528,000 women worldwide pass away every year from pregnancy and childbirth-related problems, and up to 80% of these maternal deaths are directly attributable to five complications: haemorrhage, sepsis, eclampsia, uterine rupture due to obstructed labour, and abortion-related complications.³ Obstetric haemorrhage is the primary cause of maternal morbidity and mortality in both developed and developing countries, with Asia accounting for 31% of global maternal fatalities.⁴ In India 38% of maternal deaths were caused by haemorrhage according to REGISTRAR GENERAL, INDIA NEW DELHI in the year 2001-03⁵

High risk pregnancies with a predicable risk factors for PPH should be recommended to deliver at a location with access to intensive care and transfusion support.

Although blood transfusions have quickly and safely changed patient care, there is still a growing need for blood and other supplies. The indications and the clinical requirements for blood transfusions may change depending on the setup. Therefore in order to comprehend the numerous epidemiological determinants, patient profiles, and clinical scenarios necessitating blood transfusion in obstetric patients at a tertiary care centre in Bagalkot, India, this audit-study was conducted. Additionally, the departmental policy for the transfusion of blood and blood products might be developed with the aid of this study.

AIMS:

To analyse various indications for transfusion of blood and blood products in obstetrics.

METHODOLOGY

Analysis of various epidemiological factors, clinical parameters and indications of blood and blood component transfusion was done from the hospital records after approval from the institutional ethics committee.

Study Design :

This is a Retrospective Case series study carried out in Obstetric patients at a Tertiary care hospital, Bagalkot, India

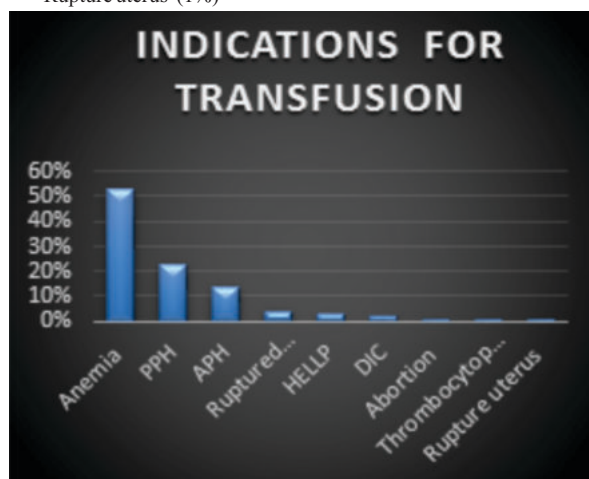
Sample Size:

A total of 100 obstetrics patient who received transfusion of blood and blood products.

RESULTS:

Indications For Transfusion :

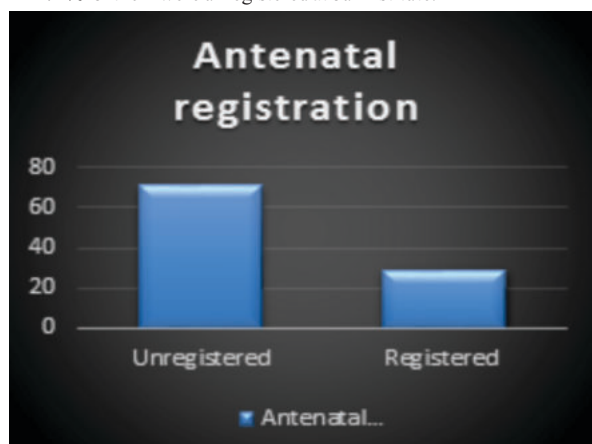
- Anemia (53%)
- Postpartum Haemorrhage (PPH) (23%)
- Antepartum Haemorrhage (APH) (14%)
- Ruptured ectopic (4%)
- HELLP syndrome (3%)
- Disseminated intravascular coagulopathy (2%)(DIC)
- Thrombocytopenia (1%)
- Abortion (1%)
- Rupture uterus (1%)



Antenatal Registration

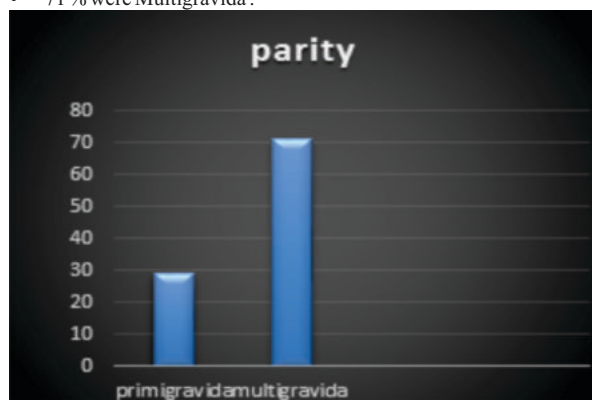
- 29% patients were registered antenatally

- 71% of them were unregistered at our institute.



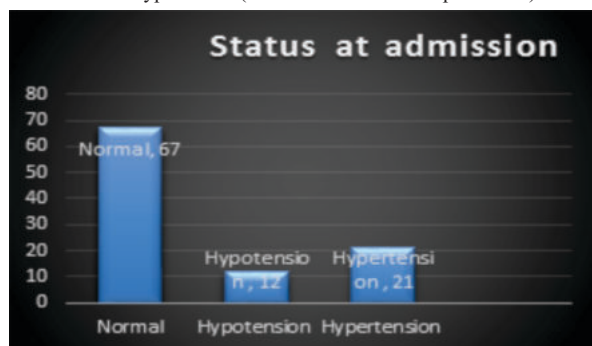
Parity Of The Patient

- 29% accounted for primigravida and
- 71 % were Multigravida .



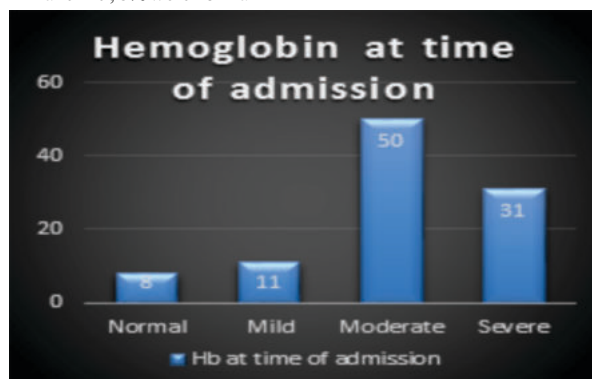
Status At The Time Of Admission

- 67% were Normotensive
- 21% were Hypertensive
- 12% were Hypotensive (referred cases with complications)



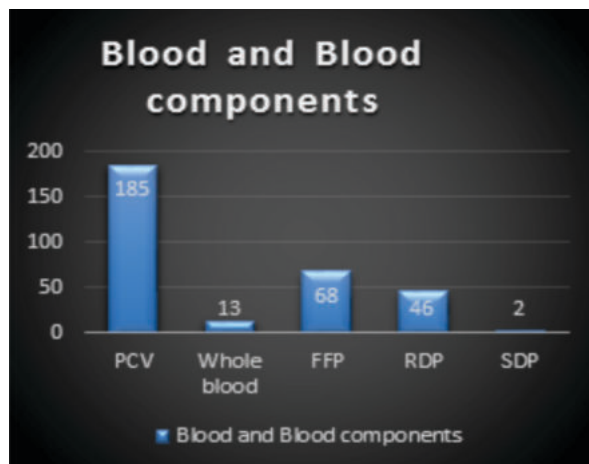
Hemoglobin At Time Of Admission

- 50% - moderate anemic ,31% -severely anemic ,11% -mild anemic , 8% were normal



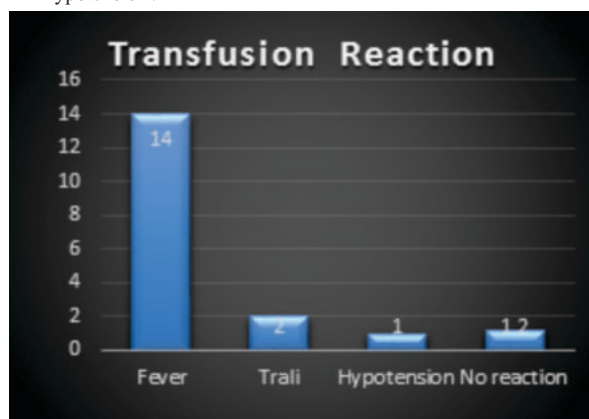
Blood Products Used

- Total number and types of blood and blood products used :
- 185 units of PCV , 68 units of FFP , 46 units of RDP , 13 units of Whole Blood and 2 units of SDP .



Transfusion Reactions :

- 14% had fever , 12% had no reaction , 2% had TRALI and 1% had hypotension .



DISCUSSION

As the pregnancy advances and reaches near term, requirement of blood transfusions for correction of anaemia keeps on increasing. Obstetric haemorrhage is a life-threatening emergency that can be anticipated and be prevented.

Strict active management of the third stage of labour is necessary. When such crises arise, a functioning blood bank is necessary to supply blood and blood products. Thus in acute blood loss, with moderate haemorrhagic shock, either normal saline or Ringer's lactate may be used for volume replacement and in massive hemorrhagic shock, Ringer's lactate may be the fluid of choice ⁶

The use of uterotonics for the prevention of PPH during the third stage of labour is recommended for all births . Oxytocin (10 IU, IV/IM) is the recommended uterotonic drug for the prevention of PPH. In settings where oxytocin is unavailable, the use of other injectable Uterotonics or oral misoprostol (600 µg) is recommended If bleeding does not stop inspite of treatment using uterotonics and other available conservative methods (e.g. uterine massage, balloon tamponade), the use of surgical interventions is recommended. The use of bimanual uterine compression is recommended method until appropriate care is available for the treatment of PPH due to uterine atony after vaginal delivery. The use of external aortic compression for the treatment of PPH due to uterine atony after vaginal birth is recommended as a temporizing measure until appropriate care is () . The use of non-pneumatic anti-shock garments is recommended as a temporizing measure until appropriate care is available .

The prevention and treatment of PPH are therefore vital steps towards improving the health care of women during childbirth and the achievement of the Millennium Development Goals. To reach these objectives, health workers in developing countries should be given

access to appropriate medications and be trained in procedures relevant to the management of PPH.

Transfusion reactions range in frequency from relatively common, (mild allergic and febrile non-hemolytic reactions) to rare (anaphylaxis, acute hemolytic, and sepsis). Fatal adverse events have been reported to occur most commonly with TRALI, and long-term or later adverse events are typically the result of disease transmission⁷

Obstetrics frequently calls for blood transfusions, thus all medical professionals need to be familiar with transfusion reactions. Any patient can undergo a blood transfusion reaction in any ward, and all nurses must be aware of any potential complications and how to manage them.

Most of the patients transfused were unbooked cases. These results show the inadequate antenatal care of woman, poor nutrition and lack of awareness of importance of hematinic therapy

In our study, multiparous patients constituted 71% of the total obstetric patients received transfusion. In the present study, it was observed that severe anaemia, either during pregnancy or during postpartum period was the most common indication (31%) for transfusion. Postpartum hemorrhage (23%), placenta previa (14%), ectopic pregnancy (4%) DIC (2%) were other common indications. Less common indications were abortions and thrombocytopenia etc. The results of our study are comparable to study done by Bengal VB et al.⁸

Among obstetric patients, who received blood transfusion, (29%) were booked and (71%) were unbooked at our institute. This observation was also made by Chowdhury F et al.⁹

Total number and types of blood and blood products used in 100 patients in the study was 58.9% PCV, 21.6 % of FFP, 14.6% RDP, 4.1 % Whole Blood and 0.6 % SDP. Patel VP et al in their study titled Study of role of blood transfusion in obstetric emergencies reported that 80% patients were transfused with PCV only and 20% patients received combination of blood and blood products like FFP, PRC, and Cryoprecipitate¹⁰

In the present study Out of 100 patients who received blood transfusion, 14% had fever, 12% had no reaction, 2% had TRALI, and 1% had hypotension. A study conducted by Deshpande M et al reported that 9 out of 204 women (4.41%) had a transfusion reaction, among which 1.47 had urticarial rash, 1.47% had chills and 1.47% had transfusion related acute lung injury.¹¹

CONCLUSION

- Anemia and obstetric haemorrhage were the most common reasons for transfusions in that most patients were un-booked during pregnancy in the study conducted.
- Lack of antenatal care is associated with a significant increase in maternal as well as neonatal morbidity and mortality, Regular antenatal care, early detection and treatment of high-risk pregnancies, obstetric complications and institutional delivery may improve the obstetric outcome.
- Institutional deliveries in India have risen sharply from 47% in 2007-08 to over 78.9% in 2015-16, after launching Janani Suraksha Yojana (JSY).
- Improving awareness regarding the importance of family welfare services and strengthening the quality of services is the only way forward.

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