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Adverse donor reactions in donors at a tertiary care rural blood bank: a study of 6385 blood donors

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ABSTRACT

Blood transfusion is commonly required for emergency as well as routine surgical procedures and conditions like anaemia, thalassemia, haemophilia, leukemia etc and it is collected from the donors which is quite safe and simple procedure. However, sometimes few adverse reactions can take place like vaso-vagal reactions, fall, haematoma formation at the site of venipuncture etc. This study aims to overview these adverse reactions in the blood donors.

Keywords: Blood, Donor, Adverse Reaction, Vasovagal, Haematoma.

INTRODUCTION

Blood transfusion is a life saving procedure for emergency patients. Three to four lives can be saved from one donation. Blood is required not only for anaemia, routine surgeries, thalassemia, and haemophilia patients but also as a life saving medicine for trauma patients and pregnant females. Blood is basic raw material for blood banks. Mostly blood donations are uneventful and blood donors tolerate the donation process very well. But sometimes adverse donor reaction of variable severity may occur ranging from reflex vaso-vagal reactions, injury by falling on hard surface due to precipitation of underlying illness like epilepsy, heart disease, hypertension or diabetes [1]. These reactions are may be

1. Local reactions occur due to problems related to venous access this may be caused due to incorrect placement of needle during venipuncture.
2. Systemic reactions include vasovagal reactions, citrate toxicity or other severe events.

AIMS & OBJECTIVES

1. To study adverse donor reactions in blood donors in voluntary blood donation camps and in house blood donors at a rural tertiary care rural blood bank [4].
2. To classify adverse donor reactions as per different age group, gender specificity, first time or repeat donation, any history of

medication etc. and grade the reaction according to their severity.

3. Comparison with similar other studies [2].

for about half an hour in the refreshment room and even later [3].

RESULTS

MATERIAL AND METHODS

This was a descriptive study done at department of transfusion medicine of Bhagat Phool Singh Government Medical College for Women, Khanpur kalan, sonapat. The study period was from June, 2016 to May, 2017. The incidence proportion of donor reaction was studied in the bleeding room,

Study was done on 6385 blood donors in the voluntary blood donation camps and blood donors (whether voluntary or replacement) in the blood bank out of which 97.5% were voluntary donors and 2.5% were replacement donors. Number of total female donors was ten, out of which adverse donor reaction occurred in three females.

Table 1. Number of blood donors with adverse donor reactions.

Sex	Number of adverse donor reaction
Male	55
Female	3

Table 2. Description of blood donors as per age group:-

Age group (in years)	Number of male donors	Number of female donors
18-30	38	3
31-60	17	-

Table 3. Description of blood donors as per geographical area:-

Total numbers of donors in which adverse donor reaction occurred	Number of donors from rural area	Number of donors from urban area
58	45	13

Table 4. Description of donors as first time donor or repeat donor:-

No. of First time donors	46	0.72%
No. of repeat donors	12	0.18%

Table 5. Description of types adverse donor reactions:-

Serial number	Types of reactions	Number of donors	%
1.	Vasovagal reaction	47	81.3%
2.	Hematoma	06	10.34%
3.	Reaction to betadine	04	6.89%
4.	Injury to head due to fall	01	1.72%
Total number of donors with adverse donor reaction		58	

DISCUSSION

After analyzing the results of our study we found that overall rate of complications related to blood donation is very low i.e. 0.9% and are mild complication which can be tackled very easily without losing the confidence of the donor.

The most common reaction found was vasovagal reaction which was 81.3% of all adverse

reactions and all were mild in nature. Majority of them occurred at donation site only. Young age, lower weight, female gender and first time donors were reported with such reactions in majority. But second time donors, male sex and age above 30 years, and repeat donor show a major decline in the adverse donor reactions. A study by France shown that baroreceptor sensitivity is decreased in healthy

young persons when they are physically or physiologically stressed. With increasing age, body becomes stable haemodynamically. Also, young donors were more apprehensive to pain of phlebotomy. Hematoma was the second most adverse reaction in donors. This observation is in agreement with Newman's study where incidence of hematoma was more when phlebotomist was untrained, had poor technique or failed to select the best vein. In a recent study by American Red Cross on donor hemovigilance program, syncopal reactions were seen more frequently after whole blood donation while hematomas were more in plateletpheresis donors.

CONCLUSION

Donor safety is an essential prerequisite to increase voluntary blood donation. One of the key

objectives of national blood policy is to achieve 100% voluntary blood donation. The present national average being 61%. Adverse donor reactions analysis helps in identifying blood donors at risk of donor reaction and adopting appropriate donor nutritional strategies, pre donor counselling and care during & after donation. This is important strengthening the voluntary blood donation program in our country. The donors experience has a significant impact on the willingness to return and donate blood again. It greatly lowers the incidence of adverse donor reactions. Excellent behaviour and dealing of blood bank staff always pays in respect to regular donorship and minimizing the risk of adverse donor reactions so as to keep nations promise towards safe donor, safe blood.

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