

ROUTINE GYNAECOLOGICAL OPERATIONS WITHOUT BLOOD TRANSFUSION

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Abstract:

Objective : To establish the fact that most of the routine gynaecological operations need no blood transfusion.

Method : This was a prospective observational study conducted in Dhaka Medical College Hospital from 15th January, 2011 to 14th April, 2011. Subjects were gynaecological patients admitted for routine operation. Main outcome variable was comparison of postoperative events between patients who received blood transfusion and who did not.

Results : 40 gynaecological patients were operated without blood transfusion (Group I) and 40 patients were taken who were operated with blood transfusion (Group II). Among the patients 35% in Group I and 42.5 % patients in Group II had some minor complications (hypotension, fever, wound infection and others) in postoperative period. The p value of these postoperative complications in Group I is 0.020 and in Group II is 0.047 and $r = 0.75$. The difference of p-value is significant. No patient of any group suffered from any major complication.

Conclusion : There was no advantage of transfusing blood in routine gynaecological operation, rather more patients with blood transfusion had some minor postoperative complications.

Key words: Gynaecological Operations, Blood Transfusion.

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Introduction

Routine gynaecological operations are those surgical procedures where patients undergo schedule operation for gynaecological causes. General condition of these patients are usually stable.

Blood transfusion is the term used to describe the therapeutic use of whole blood and blood products.^{1,2} The study of Red Blood Cell (RBC) antigens and the antibodies reactive with them forms the foundation of transfusion medicine.^{1,2}

Blood transfusion is a life saving procedure but it is not without risk. Recipients may rarely develop transfusion transmitted infection as well as suffer from immunological sequelae such as red cell alloimmunisation. A major risk of blood transfusion is the patient receiving mismatched blood. These emphasize the importance of knowledge about indication for blood transfusion and complication associated with it, as 2-5% transfusion have been seen to be associated with adverse events.¹ Sometimes we use blood over enthusiastically where blood transfusion could be avoided.

Blood transfusion is indicated in the following cases 3 :

Clinical condition	Transfusion trigger
Acute anaemia	Hb < 8gm/dl or presence of symptom
Surgical hemorrhage-----	Hemorrhagic shock
Traumatic hemorrhage -----	Hb < 7gm/dl or presence of symptom
Non-surgical/ Non-traumatic Hemorrhage---	Hb < 7gm/dl or presence of symptom
Critical illness-----	Hb < 9gm/dl (weak evidence)
Early sepsis with inadequate oxygen supply--	Hb < 7gm/dl
Septic shock, Late sepsis -----	Hb < 9gm/dl (weak evidence)
Acute coronary syndrome-----	No clear cut transfusion triggers have been defined. Decision to transfuse is individualized based on symptoms and functional impairment.
Chronic anaemia	
Chronic blood loss	
Decreased erythropoiesis	

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In obstetric and gynaecological patients very often blood is transfused. In some patients, especially in emergency obstetric patients, transfusion is needed. But in routine gynaecological operative cases, the contrary is true. Here less often transfusion is needed. But unfortunately, we often injudiciously and unnecessarily transfuse blood, which has risk of blood reaction and transmitting blood transmitted diseases.

A safe blood supply depends on :

1. A well-organized supply system that ensures regular donation by healthy individuals who have no excessive risk of transmissible infection.
2. Testing of all donated blood to exclude HIV, Hepatitis B, Hepatitis C, Syphilis and other infectious agents .
3. Effective control over the quality of testing techniques, eg, blood grouping, storage and screening for infectious agents.

Unfortunately, in our country , a large portion of blood is supplied by professional donors, who donate in exchange of money. And in many small diagnostic centres screening procedures are not adequate. Private blood banks are seen nearby all hospitals. These blood banks are formed with commercial motive without proper screening and storage system. They take blood from professional donors in exchange of money and sell it to the patients for money. Many of the professional donors are addict and they have the chance of carrying various infectious agents. In transmitting HIV the efficiency of transmission through blood transmission is alarming. While efficiency of transmission per single sexual exposure is 1%, it is through blood transfusion is 90%. In 2002 , 5 – 10% of newly acquired HIV infections were related to infected blood transfusions.⁴

Now it has come time to give a look into the reality that is it always necessary or judicious to transfuse blood so often to our routine gynaecological operative patients?

Objectives of the study:

This study was carried out to establish the fact that most of the routine gynaecological operations need no blood transfusion.

Inclusion Criteria:

- Routine gynaecological operations.
- Haemoglobin level 55 – 65% .

Exclusion Criteria:

- No emergency gynaecological cases were included.
- Severe anemia patients were excluded.

Methodology

The place of study was Dhaka Medical College Hospital and duration was from 15th January, 2011 to 14th April, 2011.

We have carried out a prospective observational and analytical study on 80 patients. These were routine gynaecological cases where major operative procedures were performed. Majority of the patients' preoperative Hb% was between 55 to 65%. Among the 80 patients, 40 patients did not have blood transfusion and 40 patients had blood transfusion. Hb% was done again postoperatively in all patients. We followed up the postoperative period and documented our findings.

Result :

In both Group I (Without blood transfusion) and Group II (With blood transfusion) age of the patients range from 36 to 60 yrs and there is no significant difference between the two groups. Majority of the patients come from lower socioeconomic condition in both groups. Total abdominal hysterectomy was done in 32 patients in each group for fibroid uterus and Dysfunctional uterine bleeding. Vaginal hysterectomy was done for genital prolapse in 08 patients in each group. In all patients Preoperative Hb% was 55gm% or more. Postoperative Hb% was also 55gm% or more in all patients. Hospital stay was almost same in both groups. General condition was good in all patients on discharged.

Only difference between the two groups was that in postoperative period , some minor complications like hypotension, fever, wound infection and others occurred in both groups in significant difference. The p value of postoperative complication in Group I is 0.020 and in Group II is 0.047 and $r = 0.75$. So the difference of p value is significant. It means the

difference between the incidence of postoperative complication is significant. In our study we have seen that there is no advantage of blood transfusion over not transfusing, rather there is more incidence of fever in the blood transfused patients. So we should and must avoid blood transfusion in routine gynaecological operations, where blood transfusion is not absolutely needed.

Table I
Age Distribution

Age	Group I	Group II
36 -45 yrs	19	17
46 – 50 yrs	9	8
51 -60 yrs	12	15

Table II
Socioeconomic Status

Socioeconomic condition	Group I	Group II
Lower	26	27
Middle	11	9
Higher	03	4

Table III
Diseases of Patients

Name of Disease	Group I	Group II
Fibroid	17	18
DUB	15	14
Genital Prolapse	08	08

Table IV
Preoperative Hb%

Preoperative Hb%	Group I	Group II
55-60gm%	22	20
61-70gm%	12	12
>70gm%	06	08

Table V
Postoperative Hb%

Postoperative Hb%	Group I	Group II
55-60gm%	20	17
61-70gm%	17	19
>70gm%	03	04

Table VI
Hospital Stay

Hospital Stay	Group I	Group II
5-7days	33	32
8-10 days	04	05
11-14 days	03	03

Table VII
General condition on discharge :

General condition	Group I	Group II
Good	40	40
Bad	0	0

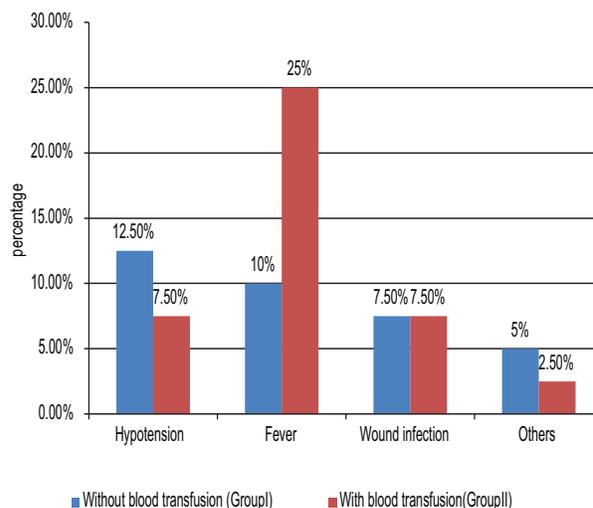


Fig.-I : Comparison of postoperative findings of Group I and Group-II

Table VIII
Comparison of postoperative findings of Group I and Group-II

	Number		Percentage		P value	
	Group I	Group II	Group I	Group II	Group I	Group II
Hypotension	5	3	12.5	7.5	0.020	0.047
Fever	4	10	10.0	25.0		
Wound Infection	3	3	7.5	7.5		
Others	2	1	5.0	2.5		
Total	14	17	35	42.50		

Discussion:

There is considerable uncertainty regarding the optimal haemoglobin threshold for the use of red blood cell (RBC) transfusions in anaemic patients. Blood is a scarce resource, and in some countries, transfusions are less safe than others because of a lack of testing for viral pathogens. Therefore, reducing the number and volume of transfusions would benefit patients.⁵

A review study was done by Carson JL et al of New Jersey with the title, "Transfusion thresholds and other strategies for guiding allogeneic red blood cell transfusion." A total of 31 trials, involving 12,587 participants, across a range of clinical specialities (e.g. surgery, critical care) were studied. They defined participants randomly and allocated to the lower blood transfusion threshold as 'restrictive transfusion' and to the higher transfusion threshold as 'liberal transfusion'. Blood transfusion threshold was 7 g/dL in about half of the participants in restrictive transfusion group, and the other half used transfusion threshold of 8 g/dL to 9 g/dL in liberal transfusion group. The study showed that restrictive transfusion strategies did not increase or decrease the risk of 30-day mortality compared with liberal transfusion strategies or any of the other outcomes assessed, i.e. cardiac events, myocardial infarction, stroke, thromboembolism. Liberal transfusion also did not affect the risk of infection (pneumonia, wound, or bacteraemia). The author's conclusion was that transfusing at a restrictive haemoglobin concentration of 7 g/dL decreased the proportion of participants exposed to RBC transfusion by 43% across a broad range of clinical specialities. The findings provide good evidence that transfusions with allogeneic RBCs can be avoided in most patients with haemoglobin thresholds above 7 g/dL.

In a study, entitled 'Indications and hazards of emergency whole blood transfusion in obstetric

practice'⁶, done in Dhaka Medical College Hospital in 2013, it was seen that among all transfusions, transfusion hazards developed in 11.84% cases, of them 7.48% were allergic reaction, 3.16% febrile reaction and 1.05% circulatory overload. In another study, entitled 'Evaluation, outcome and strategy of safe blood transfusion in obstetric hemorrhage'⁷, done in 2012 – 2013 period, almost same findings were found with transfusion hazards in 11.81% cases.

Conclusion:

Analysing the result of our study and also discussing other studies done in our country and abroad, we find that there is no advantage of transfusing blood in routine gynaecological operations, rather a significant number of patients with blood transfusion have some minor postoperative complications.

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