SATISFACTION AND TIME TO OBTAIN BLOOD PRODUCTS IN OBSTETRIC EMERGENCY SITUATIONS AT SYLVANUS OLYMPIO TEACHING UNIVERSITY CENTER OF LOME

ABSTRACT

Objective: To evaluate the satisfaction and delay in obtaining blood products during obstetric emergencies at the Sylvanus Olympio University Hospital Center

Methodology: This is a prospective study conducted from June 2017 to May 2018, including 252 pregnant women and women who had received a blood transfusion in a context of genital hemorrhage or anemia. Our data was captured and processed with CSPRO and IBM SPSS 25 software.

Results: The mean age of the patients was 30 +/- 8 years old. The paucigales and pauciparas were the most transfused respectively in 63% and 48%, followed by primigest (32%) and nulliparous (32%). Seventy-four percent (74%) of the patients were referred, 26% were self-referred. Indications for transfusion were dominated by haemorrhagic abortion (26.6%) and postpartum haemorrhage (20.6%), followed by retroplacental hematoma (13.9%), uterine rupture (12.3%). %), hemorrhagic placenta previa (10.7%), ruptured GEU (10.3%), sickle cell disease (3.2%) and malaria (2.4%). Cutaneo-mucous pallor was observed in all patients. Asthenia was present in 41.30%, vertigo 34.10%, shock state 31%, edema 2.38% and coma 1.60% of cases. The pre-transfusion hemoglobin level was achieved in 73% and post-transfusional in 96%. CNTS was the most popular blood supply center in 81.3%, followed by the CHU-SO in 6.3%.

Conclusion: Blood transfusion in obstetric emergencies is a maternal rescue act. But the absence of a blood bank at the maternity ward delays the care.

Key words: obstetric emergencies, haemorrhage, anemia, transfusion

1-Introduction

All pregnant women are at risk of complications obstetric requiring transfusion need more often, with most life-threatening complications occurring during pregnancy, delivery, and / or postpartum. These obstetric complications are found all over the world. They are common in developing countries where they are responsible for high fetal-maternal mortality and morbidity. Haemorrhage remains an important cause of maternal mortality. According to a study conducted in Africa by the World Health Organization, of 585,000 women who die each year from complications of pregnancy and childbirth, one quarter succumbs to bleeding [1]. In the therapeutic arsenal, the use of blood transfusion remains a possible event. The range of indications of the transfusion therapy explains the considerable increase of the latter [2]. Developing countries are providing their medicine with this therapeutic tool, but with many difficulties. Blood transfusion is a very frequent therapy in gynecology and obstetrics, and as delicate given the many risks associated with labile blood products [3]. Respect for transfusion safety rules is the only way to reduce the frequency of complications related to blood transfusion; hemovigilance plays a key role [4]. The daily observation of the transfusion practice in the obstetrics and gynecology department of the CHU-SO shows the existence of the delay in the care of our patients. As a result, this study was initiated to assess transfusion requirements in emergency obstetric conditions at the CHU-SO maternity ward.

Comment [DL1]: Risk of obstetric complications

2. Framework for study

The gynecology-obstetrics department of the Sylvanus-Olympio University Hospital Center (CHU-SO) served as a study framework. The CHU-SO is a center of care, teaching and research. Our study looked at 252 pregnant women and children admitted to the CHU-SO maternity ward in a context of genital hemorrhage or anemia. We included in our study any pregnant or childbearing admitted in emergency or not, referred or not referred to the gynecology-obstetrics department and who presented with anemia that required a blood transfusion. This was a prospective study over a 12-month period from June 2017 to May 2018. Our data was captured and processed with CSPRO and IBM SPSS 25 software. We used the khi2 test at the threshold of 5% for statistical analysis of qualitative data.

Any approval from ethical committee before this work is done?

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3. RESULTS

3.1. Epidemiological data

Most of our patients (44.8%) were between 30 and 39 years old.

3.1.1. Age of patients

The average age of our patients was 30 +/- 8 years old.

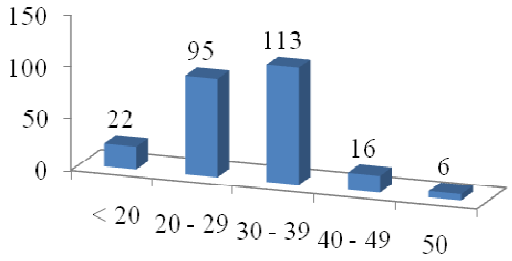

Figure No. 1: Distribution of patients by age

3.1.2. Ethnic group of patients

The Ewe ethnic group was the most represented in 48% of cases.

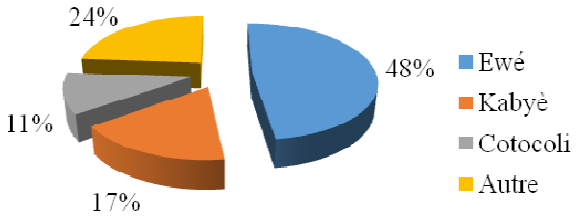

Figure 2: Distribution of patients by ethnicity

3.1.3. Profession of patients

The majority of our patients were housewives and shopkeepers respectively in 36.9% and 22.6% of cases.

Table I: Distribution of patients by occupation

	Number	Percentage (%)
Housewife	93	36,9
Shopping	57	22,6
Workers	33	13,1
Apprentice	21	8,3
Student	19	7,5
Teacher	11	4,4
Student	10	4,0
Cultivatrice	8	3,2
Total	**252**	**100,0**

Comment [DL2]: % in parenthesis

Comment [DL3]: 36.9 (decimal point rather than comma), others should be corrected accordingly

3.1.4. Level of education of patients

More than half of the patients, 57.1%, had a secondary level of education. Only 4% had tertiary level.

Table II: Distribution of patients by level of education

	Number	Percentage(%)
Primary	67	26,6
Secondary	114	57,1
Tertiary	10	4,0
Not educated	31	12,3
Total	**252**	**100,0**

Comment [DL4]: 26.6

3.2. Antecedents

3.2.1. Patient gestation

The majority of patients, 63%, were paucigests. The primigest and the multi-gestate represented respectively 32% and 5%.

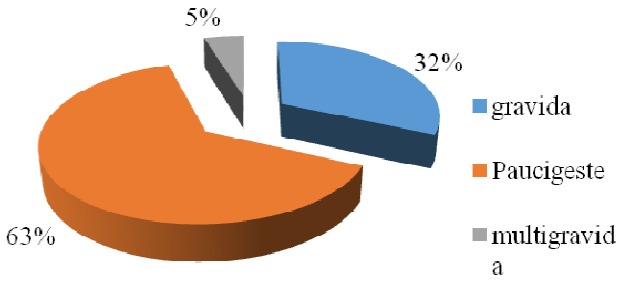

Figure 3: Distribution of patients by Gestity

3.2.2. Parity of patients

The majority of the transfused patients were pauciparous or 48% followed by nulliparous 32%, primiparous 14% and multiparous 6%.

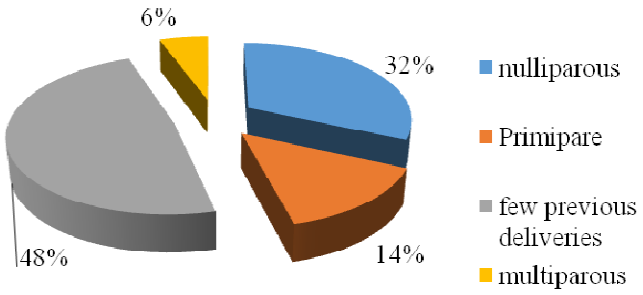

Figure 4: Distribution of patients by parity

3.3. Mode of admission of patients

Seventy-four percent (74%) of the patients were referred, 26% were self-referred.

Figure No. 5: Patient DistriF

Figure No. 5: Patient Distribution by Admission Mod

3.5 Therapeutic aspec3prescription and obt

3.5.1. Time between

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Table III: Distribution of patients according to the delay between the prescription and the obtaining of the blood produc	N	NumbeP
<	< 1 hou5	2
1	1 - 2 hour4	41
>	> 2 hour2	208
T	**Tota2**	**251**

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3.5.2 Rhesus grouping according to the time of obtaining the blood produc Nwaiting.5□□Ő□□□□□□ἄ□우Ɑ靚⌀靚ㅅ 贬ª 贬ㄅ梿揎딸

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Table IV: Distribution of rhesus grouping according to the time taken to obtain the blood product (< 1 h) 1

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Table IV: Distribution of rhesus grouping according to the time taken to obtain the blood produc	**<**	**< 1 1**	**1 - 2 >**
A	A2	9	3
A	A0	4	2
B	B0	7	2
B	B0	1	1
A	AB0	1	8
A	AB0	0	1
O	O3	1	16
O	O0	2	2
T	**Tota5**	**4**	**42**

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3.5.3 Prescribed red blood cell caM

More than two (2) bags of CRG were prescribed in 64.3% of patients, 35.7% had a prescription of 1 to 2 bags

Taof Prescribed Red Blood Puff Pockets n Numbe

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Table V: Distribution of Patients bn	N	NumbeP
1	1-9	93
>	> 1	166
T	**Tota2**	**251**

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n = number of prescribed RGC

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3.5.4. Red blood cell foun

Eigh1 to 2 pockets of RGC, 18.7% had found all of the prescribed RBC

Eighty-one point three percent (81.3%) of the patients had found

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Table VI: Distribution of patients by number of red blood cell pellet pockets founn	N	NumbeP
1	1-2	208
>	> 4	41
T	**Tota2**	**251**

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3.5.5 Satisfaction with the demand for red blood cell pelle

Two hu47 patients were able to find all of the requests, a satisfaction rate of 29.01%.5□□Ő□□□□□□ä□우Ꭷ靚∅靚ᄉ 慂ᴺ 慂ㄱ梐揎땋㈜

Table VII: Comparison o

Two hundred and five patients (81.3%) were able to find 1 to 2 bags of CRG. Of 1

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Table VII: Comparison of the number of patients who received the red blood cell application and those who found the red blood cell

	N red bloo	
	1	**1->**
P	Patient (found pellet9	91
Patient (prescribed pelletP	2	204

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3.5.6 Frozen fresh plasma prescribeS

Seventy-four point six percent (74.6%) of patients had received 1 to 2 PFC bags and 25.4% more than 2 bags

TDistribution

Table **VIII:**	N	NumbeP
뷘 붷 뷦 뷻 붰 뷏 뷜 뷎 뷕 늀 늞 늆 늈 늪 늬 뉘 뉜 늷 늾 늼 늾 늤 늦 **n**		
1	1-1	187
>	> 6	62
T	**Tota2**	**251**

n = number of PFC bags prescribe

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3.5.7 Frozen fresh plasma foun Epatients had found 1 to 2 PFC bags

Eighty point three percent (91.3%) 빺 빽 뺌 뺦 뺪 뺬 뺴 é □ 沺 é □

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Table IX: Distribution of Patients by Number of PFC Pouches Founn	N	NumbeP
1	1-2	239
>	> 2	28
T	**뿖 쥘 2**	**251**

n

n = number of PFC bags foun

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3.5.8 Satisfaction with the demand for fresh frozen plasmO

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Table X: Comparison of the number of patients who received the PFC prescription and those who found the PFC	N	
	1	**1->**
P	Patient (PFC found1	186
Patient (prescribed PFCP	2	232

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3.5.9 Supply CenteC

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4-DISCUSSIO

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4.1. Methodological aspectW

We conducted a prospective study conducted over a period of one year, from June 2017 to May 2018. It concerned the blood transfusion activity of the department, and consisted of assessing the blood product requirements in obstetric emergencies at the CHU-SO maternity ward. This study made it possible to make a point of the question in our service which is the maternity of reference receiving obstetric emergencies coming from other centers. We encountered a number of difficulties: the loss of certain ANC cards, some referrals without a referral card, the absence of a venous approach in the evacuated patients, the absence of a minimal balance (Rh grouping, Hb). It should also be noted that the delay in evacuation of patients sometimes required transfusion without waiting for the result of the initial Hb level; in this case the quantity of transfused blood product is a function of the clinical state of the patients without evaluation of the hemoglobin level to be reached. The estimate of the time between the demand and the availability of blood was made by taking the time of the beginning of the transfusion less the time at which the blood voucher was issued. Sometimes the time of prescription is missing in some cases**4**

4.2. Epidemiological aspect4

4.2.1. AgT [5], in a study made in 2008 in Benin, had found a lower age group, that is to say between 26 and 30 years old. The high numb

The majority of our transfused patients in obstetric emergencies were between 30 and 39 years old. On the other hand, Azanhoue

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4.2.2. Ethnic grouT

The majority of our patients were ethnic Ewe. This preponderance of ethnic Ewe is explained by the fact that our framework of study (Obstetric Gynecology Department of the CHU-SO) is south of Togo where predominates the Ewe ethnic group

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4.2.3 ParitM

Most of our transfused patients were pauciparous, ie 48.4%. Multiparas were the least transfused at 5.6%. This is explained by the fact that pauciparians were more enumerated during the study period. Our results are similar to that of Andriamandrato and al in Madagascar, which found a predominance of pauciparas in 67.58% and a lower percentage for multiparas, ie 32.4% [6]**4**

4.3. Clinical aspects: Transfusion indication**I**

In our series, hemorrhagic abortion was the first indication of blood transfusion in 26.6% of cases, followed by postpartum hemorrhage in 20.6%. On the other hand, Andriamandrato and al [6] and Regal et al [7] found respectively in their studies the hemorrhagic placenta previa (56.54%) and the haemorrhage of the delivery as being the first cause of blood transfusion in the patients. obstetric emergencies. At the risk of postpartum haemorrhage (20.6%) was added the iron deficiency decompensated by pregnancy in 2.4% of cases in our study as in that of Allen [8]. Goffinet and al. in France [9], Bohoussou [10] in Abidjan found respectively in their series of postpartum haemorrhage frequencies lower than ours either 5.2% and 2.08%. This high workforce is explained by the inadequacy of the technical platform of care in our obstetric environment. In contrast, the high frequency of postpartum haemorrhage in the Goffinet study compared with Bohoussou was due to the fact that the evaluation method for Goffinet hemorrhage was more precise, so that the less amount of blood flow was taken into account**4**

4.4. Paraclinical aspect**T**

The blood group ABO Rhesus was performed urgently in our patients who did not have one. Its determination is indispensable for the prescription of the blood product. The pre-transfusion hemoglobin level was achieved in 73% of our patients and was less than 8 g /-dl. In 27% of patients, the pre-transfusion hemoglobin level was not achieved; this was observed in situations of extreme urgency where the transfusion had been performed without waiting for the result of the hemoglobin level. The majority of our patients (57.9%) had post-transfusion hemoglobin levels ranging from 7 to 9 g / dl; this control was not done in 4% which corresponded to the case of death. Andriamandrato ~~et~~ aland ~~al~~ [6] found lower achievement percentages than ours: 8.7% pre-transfusion hemoglobin and 26.9% post-transfusion hemoglobin. ~~The~~4

4.5 Therapeutic aspect4

Comment [DL5]: This should be deleted

4.5.1 Time between prescribing and obtaining the blood productE

Eighty-one (81%) of our transfused patients had obtained blood bags only after a waiting time of more than two hours. This waiting time, considered too long in an emergency situation, was comparable to that of Lankoandé [12] which was 5 hours 48 minutes in 1996. This could be explained by the long distance separating the supply center from the service of gynecology and obstetrics, the plethoric number of applicants waiting at the CNTS, the non-availability of blood products at the CNTS, the absence of a blood bank at the CHU-SO and the lack of financial resources in some of our patients**4**

4.5.2 Nature of transfused blood productI

In our study, the blood products used in our patients in obstetric emergencies were CGR and PFC. Our results are similar to that of a study in Burkina Faso that found a prescription of 97.2% RGC [13]. On the other hand, Andriamandrato and al [6] had found a whole blood prescription in 95.2% of cases

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4.5.3 Satisfaction with transfusion demanO

Out of 162 patients who received the prescription of more than 2 bags of RGC, only 47 patients could find the total demand, ie 29.01%. Similarly, of the 64 patients who received more than 2 PFC bags, only 22 patients were able to find all of the prescribed pouches, or 34.4%. The overall satisfaction rate of the demand for blood products for patients who were prescribed more than 2 bags in our series was 30.5%. Our percentage is lower than that of Traoré in a study done in Mali where it found a satisfaction rate of 59.9% [14]. This difference is explained by the fact that Traoré had transfused to their patients whole blood much more available in Mali whereas in Togo it is the derivatives of the blood that were used and rarely available. The unmet need (69.5%) in our series was due either to the lack of financial resources of our patients or to the lack of blood products at CNTS. In the latter case, our patients sometimes used other centers outside Lome to get supplies. All these situations partly explained the delay in the care of our patients

ConclusC

ConclusioT

This prospective study evaluated the transfusion requirements in obstetric emergencies in 252 patients who received transfusion of RGCs and PFCs in the obstetric-gynecology department of the CHU-SO from June 2017 to May 2018. The synthesis of the analysis of the survey data allows us to draw from this work devoted to blood transfusion the following

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1- REFERENCE

1-haemorrhage at the reference health
-haemorrhage at the reference health
1- Ongoiba IH. Immediate postpartum
2- Bonnet MP, Deneux-Tharaux C, Bouvier-Colle MH. Critical care and transfusion management in maternal deaths from postpartum hemorrhage. Eur J Obstet Gynecol Reprod Biol. 2011; 158: 183-83
3- Parker J, Thompson J, Stanworth S. A retrospective one-year single-center survey of obstetric red cell transfusions. Int J Obstet Anesth. 2009; 18: 309-134
4- Murphy MF, Wallington TB, Kelsey P, et al. Guidelines for the clinical use of red cell transfusions. Br J Haematol. 2001; 113: 24-315
5- Azanhoue A-C. Blood transfusion in the obstetrical medium at HOMEL (Cotonou). Thesis of Med: Faculty of Medicine and Odonto-Stomatology of Cotonou, 20086
6- Andriamandrato HU, Rakotozanany B, Rajaonarison TJ. Blood transfusion in obstetrical practice at the Gecbiology and Obstetrics Hospital of Befelatanana. JMGO 2015; 2: 12-157
7- Regal F, Siboni O, Oury I. Criteria for transfusion in severe postpartum hemorrhage, analyzes of practice and risk factors. Eur J Obstet Gyn Reprod Biol 2004; 11: 61-48
8- Allen LH. Pregnancy and iron deficiency. Nutr Review 1997; 55: 91-1019
9- Goffinet F, Haddad B, Carbonne B, Sebban E, Papiernik E. Practical use of sulprostone in the treatment of hemorrhages of the delivery, J Gynecol Obstet Biol Reprod, 1997; 26: 34-81
10- Bohoussou M., Immediate postpartum haemorrhage: etiology and prognosis concerning 210 cases collected in the department of gynecology and obstetrics of the CHU of Cocody., Rev Fr Gynecol. Obstet, 1999; 24: 104-1121
11- National Agency for the Safety of Medicines and Health Products. Transfusion of fresh frozen plasma: products, indications, arguments. Saint-Denis (France): ANSM, HAS; 20121
13- Boukoungou P, Kinda B, Simpore A. Indications and prognosis of women transfused in the Gynecology-Obstetrics Department of the CHU-YO Center of Ouagadougou. RAMUR 2012; 17: 51

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Comment [DL8]:

14- Traore ML. Transfusion needs in obstetric emergency situation in the gynecology-obstetrics department of CHU Gabriel. Thesis of Medicine. 2009