

- 21-26.
4. Starodubov V.I., Suhanova L.P., Sychenkov Yu.G. Reproktivnye poteri kak mediko-social'naya problema demograficheskogo razvitiya Rossii [Elektronnyj resurs] [Reproductive losses as a medical and social problem in the demographic development of Russia [Electronic resource]. Social'nye aspekty zdorov'ya naseleniya [Social Aspects of Population Health], 2014, №4 (38), Rezhim dostupa: <http://vestnik.mednet.ru/content/view/367/30/> [Access mode: <http://vestnik.mednet.ru/content/view/367/30/>].
 5. Frolova O.G. [i dr.] Prenatal'naya diagnostika – vazhnejshaya zadacha regional'nyh programm modernizacii zdavoohraneniya [Prenatal diagnosis as the most important task of regional programs of healthcare modernization]. Akusherstvo i ginekologiya [Obstetrics and gynecology], Moscow, 2012, № 5, pp. 75-78.
 6. Cybul'skaya I.S. Mediko-social'nye aspekty formirovaniya zdorov'ya detej [Medical and social aspects of children's health formation]. Tver': Tverskaya Gorodskaya Tipografiya [Tver: LLC Tver City Printery], 2013, 288 p.

The author

Yarovskiy Aleksey A., Post-graduate student, Medical Institute NEFU, Yakutsk, the Sakha Republic (Yakutia), Russia, Tel: 8-914-2-74-76-70, E-mail: yavorskiy2011@mail.ru.

M.B. Kutsyi, M.S. Karasev, N.Yu. Vladimirova, V.S. Gorokhovskiy, I.A. Stadnikova, N.V. Grishina, A.G. Serebrennikov

THE EXPERIENCE OF INTEGRATION OF THE EUROPEAN GUIDELINES ON MANAGEMENT OF MAJOR BLEEDING DURING OPERATIVE DELIVERY AMONG WOMEN WITH PLACENTA PERCRETA

DOI 10.25789/YMJ.2018.63.34

ABSTRACT

The article reflects the experience of transfusion therapy in major obstetric bleeding during cesarean section among women with placenta percreta from 2016 to 2018. A comparative analysis of the applied blood components and blood products is presented in the article. The analysis has shown that integration of The European guidelines on management of major bleeding allows decreasing the average volume of blood loss, reducing postoperative transfusions, reducing the frequency of postoperative mechanical ventilation, as well as reducing duration of stay in the intensive care unit.

Keywords: massive hemorrhage, obstetrics, infusion-transfusion therapy.

Introduction

Despite the rapid development of medical technologies, maternal mortality around the world remains significantly high. Every day about 830 women die from complications related to pregnancy or childbirth [2]. According to the World Health Organization, in 2015, approximately 303,000 women died during and after pregnancy and childbirth [3].

Women die in a result of complications during and after pregnancy and childbirth. Most of these complications are preventable. The main complication leading to maternal mortality is major bleeding [4]. One of the main risk factors for major bleeding is placenta percreta [1].

Major bleeding is often impossible to predict, and often impossible to control, therefore infusion-transfusion therapy in major bleeding is essentially important and it determines the success of treatment of patients with placenta percreta.

Purpose of the research

Reducing the number of complications

related to infusion-transfusion therapy in major bleeding among women with placenta percreta during cesarean section.

Materials and methods

During the period from 2016 to 2018, 27 patients with placenta percreta (9 patients per year) were operated in Khabarovsk, KGBUZ Perinatal Center. The caesarean section was performed at 37 weeks gestation. All patients underwent total hysterectomy. During the operation, all patients underwent general combined anesthesia with intubation of the trachea and mechanical ventilation. The operations among all patients were followed with major obstetric bleeding, more than 40% of the total blood volume (TBV).

Complex of preoperative checkup included general clinical tests, ultrasound examination of the uterus, MRI of the uterus, specialists examination. Complex of preoperative patient preparation included: among women with iron deficiency anemia - parenteral iron injections. In the absence of contraindications, the preparation of

frozen autoplasm was done.

During the operation, if there were no contraindications, all patients underwent a reinfusion of auto-red blood cells.

Infusion-transfusion therapy changes every year. In 2018, transfusion therapy was applied according to the European guidelines for major bleeding [5]. The basis of the infusion- transfusion tactics was:

1. Providing transfusion in a restrictive mode - balanced crystalloids in the volume up to 2000 - 2400 ml;

2. Before the achievement of surgical hemostasis, using the concept of acceptable hypotension with a target level of systolic blood pressure 80-90 mm Hg, with correction of hypotension (in case of its development) by early use of noradrenaline;

3. Preventive transfusion of red blood cells components (starting from the moment when placenta percreta was confirmed intraoperative);

4. Targeted use of moderate doses of fresh frozen plasma (FFP) in combination with cryoprecipitate as a source of fibrinogen;

5. Pre-emptive transfusion of platelets concentrate;

6. Widespread and early (when blood loss is more than 50% of total blood volume) use of recombinant factor VIIa - eptactagogue alpha;

7. Minimization of use of colloid solutions until complete cancellation;

8. Preventive injections of tranexamic acid to all patients in a dose of 1000 mg, repetition of the dose when blood loss exceeds 50% of total blood volume.

Results and discussion

The introduction of the European guidelines has led to significant changes in the intraoperative and postoperative dynamics of the patients' status. So, as criteria for the stability of the patient, we estimated the average duration of postoperative stay in intensive care unit, the frequency of postoperative mechanical ventilation, the frequency of intraoperative and postoperative use of noradrenaline to stabilize hemodynamics, and the frequency of postoperative renal replacement therapy. Also, the frequency of postoperative transfusion therapy became extremely important criteria to estimate the effectiveness of the used tactics (Table 1).

Certainly, due to the small amount of cases, we did not receive statistical reliability of the differences in the criteria listed above; however, the dynamics shown speaks for itself. Management of the patients both during surgery and in the postoperative period is accompanied by a much higher stability of the condition, hemodynamics, early recovered consciousness and spontaneous breathing, absence of clinical and laboratory parameters of hemorrhagic shock.

With the integration of the European guidelines and the beginning of pre-emptive transfusion therapy, the main objection was a possibility of the significant increase of the transfusion volume, potentially leading to the increase of post transfusion complications. However, due to the analyzed research results, we found that the integration of the European guidelines did not lead to an increase of red blood cells and plasma components volume (Table 2). Thus, working according to the European guidelines doesn't lead to an increase of the transfusion volume, but it leads to pre-emptive and preventive transfusion therapy.

But the main result obtained after adding the transfusion of platelets concentrate, cryoprecipitate, and eptactagogue alpha was a significant decrease in the average volume of blood

Table 1

The frequency of major bleeding complications in years 2016-2018

	2016	2017	2018
Duration of postoperative stay in the intensive care unit, days	4,2	3,1	1,3
Postoperative mechanical ventilation, total (%)	3 (33,3)	1 (11,1)	0
Use of norepinephrine during surgery, total (%)	7 (77,8)	5 (55,6)	2 (22,2)
Use of norepinephrine after surgery, total (%)	3 (33,3)	2 (22,2)	0
Postoperative renal replacement therapy, total (%)	3 (33,3)	1 (11,1)	0
Postoperative transfusions, total number of patients (%)	5 (55,6)	3 (33,3)	0

loss compared to 2016 (Fig.).

Conclusion.

Analyzing the research, it should be noted that the integration of the European guidelines of major bleeding during the cesarean section among women with placenta percreta allows reducing the overall blood loss, reducing the number of postoperative transfusions, the frequency of postoperative mechanical ventilation, and shortening the time of patients' stay in the intensive care unit. At the same time, the infusion-transfusion therapy is not followed by the increase of erythrocyte components and fresh-frozen plasma volume. Thus, based on the obtained results, we can recommend the integration of the European guidelines of major bleeding in third level obstetric hospitals, during the operations among women with placenta percreta.

References

1. Adamyan L.V. Serov V.N. [et al.]. Profilaktika, lechenie i algoritm vedeniya pri akusherskikh krvotekheniya. Klinicheskie rekomendacii (Protokol) [Prevention, treatment and patient management with obstetric bleeding. Clinical guidelines (Protocol)]. Moscow, 2014, 25p.
2. Alkema L. Global, regional, and national levels and trends in maternal mortality between 1990 and 2015, with scenario-based projections to 2030: a systematic analysis by the UN Maternal Mortality Estimation Inter-Agency Group / Alkema L, Chou D, Hogan D, Zhang S, Moller AB, Gemmill A, et al. - Lancet. 2016; 387 (10017): 462-74.
3. Patton G.C. Global patterns

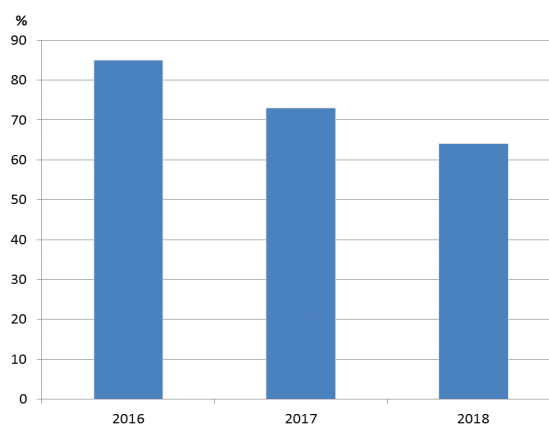
of mortality in young people: a systematic analysis of population health data / Patton GC, Coffey C, Sawyer SM, Viner RM, Haller DM, Bose K, Vos T, Ferguson J, Mathers CD. - Lancet, 2009, 374:881-892.

4. Say L. Global Causes of Maternal Death: A WHO Systematic Analysis / Say L, Chou D, Gemmill A, Tunçalp Ö, Moller AB, Daniels JD, et al. -
5. Lancet Global Health. 2014;2(6): e323-e333.
6. Rossaint R. The European guideline on management of major bleeding and coagulopathy following trauma: fourth edition / R. Rossaint, B. Bouillon et al. - Critical Care (2016) 20:100.

Table 2

Dynamics of changes in blood components and blood products introduction

	2016	2017	2018
Auto-red blood cells, ml	5361	11307	6025
Auto-fresh frozen plasma, ml	4700	8170	2500
Donor red blood cells, ml	14708	7409	8772
Fresh frozen plasma, ml	11570	8290	9860
Platelets concentrate, dose	4	4	20
Cryoprecipitate, dose	0	0	17
Eptactagogue alpha (recombinant factor VIIa), mg	0	3,6	15,6



Correlation of the average volume of blood loss with the total blood volume.

The authors

1. Mikhail Borisovich Kutcyi, M.D., head of department of anesthesiology and intensive care, «Perinatal center» Khabarovsk region. +79142097120 mkutsyy@gmail.com
2. Michail Sergeevich Karasev, doctor anesthesiologist-resuscitator of department of extracorporeal hemocorrection methods «Perinatal center», postgraduate student of «Anesthesiology, resuscitation, transfusiology and ambulance» department of Far Eastern State Medical University. +79098748372 fishop@mail.ru
3. Vladimirova Natalia Urievna, PhD, professor, deputy chief in obstetrics of «Perinatal center», professor of «Obstetrics and gynecology» department of Postgraduate institute for Public Health Workers. +79147723550 Zam.pc@mail.ru
4. Vadim Semenovich Gorokhovskii, PhD, chief of «Anesthesiology, resuscitation, transfusiology and ambulance» of Far Eastern State Medical University. +79241015246 vadsgr@yandex.ru
5. Irina Andreevna Stadnikova, doctor transfusiologist of department of extracorporeal hemocorrection methods «Perinatal center» Khabarovsk region. +79147775258 rinastar06@mail.ru
6. Nina Victorovna Grishina, doctor anesthesiologist-resuscitator of department of extracorporeal hemocorrection methods «Perinatal center» Khabarovsk region. +79242034135 nina.grishina1954@gmail.com
7. Artur Gennadievich Serebrennikov, doctor anesthesiologist-resuscitator of department of anesthesiology and intensive care, «Perinatal center» Khabarovsk region. +79141998249 artur4815@rambler.ru

O. N. Ivanova, E.F. Argunova, T.G. Dmitrieva, Ya.A. Munchalova, V.B. Egorova, S.N. Alekseeva

THE STUDY OF IMMUNITY IN CHILDREN WITH MULTIPLE PAPILOMAS

DOI 10.25789/YMJ.2018.63.35

ABSTRACT

This article is devoted to an urgent problem-multiple papillomas in children. A group of children (n=30) aged 9 to 12 years with multiple papillomas was examined. A group of healthy children (n=20) was also examined, compared groups of children are comparable in age. All children (n=30) had positive PCR for HPV, as well as histological study of papillomas. All children were examined for immune status (CD3+, CD4+, CD8+, CD16+, CD22+, IgA, IgG, IgM, IgE) on the base of National Medical centre of Republik Sakha Yakutia. Comparison of mean values was performed by one-factor analysis of variance using student's T-test to assess the equality of Fisher's f-test means. The relationship between the parameters was evaluated using linear and rank correlation coefficients. It was found that in children with papillomas reduced the content of IgA, CD19+ and CD16+ lymphocytes. All examined children received therapy drug groprinosin 500 mg age dose for 10 days, then the drug Likopid in the age dose for 10 days. All children with papillomas were found to have immune dysfunction or insufficiency affecting cellular and humoral immunity (IgA reduction, CD19+ lymphocyte reduction). It was revealed that therapy with groprinosin and lycopid drugs leads to the normalization of reduced immune status indicators: an increase in the content of CD19+, IgA, an increase in the concentration of IgA, and the absence of new papillomas in children.

Keywords: papillomas, children, immunity, immunocorrector, immunoglobulins, lymphocytes.

Papillomas are a disease that affects the skin and cells of the mucous membranes. The cause of papillomas is the human papilloma virus, which belongs to the Papoviridae family, the Papillomavirus group. The ability of the virus to integrate its DNA into the genome of human cells is a feature of HPV.

When injected into the blood channel, at the initial stage of HPV affects the basal cells of the epithelium. Microtrauma, scuffs, cracks and other skin damage contribute to the penetration of the papilloma virus into the body. For a long time, the virus may initially multiply without appearing clinically [1].

Papilloma is a neoplasm of the skin or mucous membranes and looks like papillary proliferation that protrudes over the surrounding tissue. Papillomas are localized on the skin, mucous membranes. When traumatizing papillomas, bleeding is possible, since it consists of connective tissue covered with skin and contains vessels. The tumor grows upwards outward in the form of scattered papillae in different directions and resembles cauliflower [2,3,4].

Skin color may not change, but in most cases, papillomas are white to dirty brown. The favorite localization of papillomas is the skin of the hands and hands. In patients with HPV immunodeficiency infection is manifested in the form of multiple papillomas. The concentration of the virus in the affected areas reaches a maximum by the 6th month from the moment of infection, this period is the most contagious.

PCR diagnosis allows to confirm the presence of human papillomavirus in the body and to determine its type and diagnose how many viruses there are in the body at the time of the analysis.

If the method of treatment is papilloma removal, then a biopsy is performed in parallel with the surgery to conduct a cytological study [1,5,6].

The treatment scheme of papillomas in each case is selected individually. If there are symptoms of HPV on the skin and mucous membranes, depending on the localization and symptomatology are resorting to cryotherapy for warts, electrocoagulation or removal of papillomas of the laser. It should

be borne in mind that the removal of papillomas does not lead to a complete recovery. Therefore, patients with previously diagnosed papillomas need to undergo periodic examination and conduct courses of antiviral therapy. The most effective treatment regimens include antiviral and immunomodulatory drugs.

The purpose of the study: to study the characteristics of immunity in children with multiple papillomas of the effectiveness of the therapy drugs groprinosin and Likopid.

Materials and methods a group of children (n=30) aged 9 to 12 years with multiple papillomas was examined. A group of healthy children (n=20) was also examined, compared groups of children are comparable in age. Informed consent was obtained from the parents of all children. All children (n=30) showed positive HPV DNA. Types of HPV 1,2,3,4,10 were revealed. All children were examined for immune status (CD3+, CD4+, CD8+, CD16+, CD22+, IgA, IgG, IgM, IgE) on the basis of RB No. 1-NCM RS(I). Comparison of mean values was