



## EFFICIENCY OF UTERINE BALLOON TAMPONADING IN THE PREVENTION AND TREATMENT OF MASSIVE POSTPARTUM HYPOTONIC BLEEDINGS

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<p><b>Received:</b> January 4<sup>th</sup> 2022 <b>Accepted:</b> February 4<sup>th</sup> 2022 <b>Published:</b> March 12<sup>th</sup> 2022</p>	<p>The purpose of the study was to evaluate the effectiveness of the balloon tamponade method to improve the results of treatment of women with hypotonic postpartum hemorrhage after spontaneous vaginal delivery. For the study, we selected the birth histories of 60 patients with postpartum hemorrhage after vaginal delivery. The study assessed primary outcomes, i.e. the volume of blood loss in the III and early postpartum period of labor, as well as secondary outcomes - the frequency of blood transfusion, the use of additional uterotonics, the use of additional surgical procedures (vessel ligation, hysterectomy, etc.). studies have shown that the use of balloon tamponade for postpartum hemorrhage of more than 500 ml and up to 1000 ml has a faster uterotonic effect than the traditional method. It helps to reduce primary and secondary complications arising from postpartum hemorrhage and helps to reduce the frequency of hysterectomy due to hypotonic bleeding.</p>

**Keywords:** Uterotonic effect, balloon tamponading, permissible values, hemostasis system

Obstetric bleeding most often develops during childbirth and in the early postpartum period. There are WHO recommendations on the permissible values of blood loss during childbirth through natural childbirth - up to 500 ml or 0.5% of body weight, during caesarean section (CS) - up to 1000 ml. Indications exceeding these values are pathological. Massive bleeding is often the cause of maternal death. Massive blood loss in obstetrics refers to blood loss exceeding 1.5% of the body weight of a pregnant woman or more than 20% of the volume of circulating blood with disorders in the hemostasis system and a hemorrhagic shock clinic.

The development of massive blood loss in obstetric practice is facilitated by the peculiarities of the state of the hemostasis system and the blood circulation of the uterus during pregnancy. The massiveness of bleeding is determined by the specific volume of blood in the uterus, which on average during full-term pregnancy is 600-800 ml / min. Theoretically, if one uterine artery is damaged, a woman in labor can lose the entire volume of uterine blood in less than 10 minutes.

Obstetric bleeding is the most urgent condition in obstetrics. Risk factors for the development of obstetric bleeding are:

1. Increasing the average age of childbearing.

2. Severe extragenital pathology (diabetes mellitus, arterial hypertension, cardiovascular diseases, impaired fat metabolism, etc.).

3. Multiple pregnancy, pregnancy after the use of assisted reproductive technologies (ART).

4. Congenital and acquired thrombophilia.

5. Cesarean section in history, etc.

Atonic bleeding is the leading cause of postpartum obstetric bleeding. According to experts who analyzed the causes of bleeding, it was noted that the proportion of atonic bleeding is 70%.

Violation of the typical functioning of the myometrium leads to hypotonic bleeding. Hypotension of the uterus is a condition in which the tone and contractility of the uterus are sharply reduced against the background of a preserved reflex response.

In September 2012, WHO experts developed a guideline for the use of intrauterine balloon tamponade for the treatment of postpartum hemorrhage in the absence of uterotonics based on 22 case series and 18 reports (total 278 women), as well as two reviews.

The use of the balloon tamponade method can prevent massive bleeding. This method is characterized by simplicity and speed of application, low invasiveness, and the absence of significant risks and complications for the woman in labor. The balloon tamponade method is considered a priority as the first step after conservative measures for blood loss up to 1000 ml.



The hemostatic effect of balloon tamponade consists in mechanical compression of the vessels of the placental bed and an increase in the muscle tone of the postpartum uterus. The effectiveness of the balloon tamponade method is 85-85.9%. The highest efficiency of this method for stopping postpartum hemorrhage was established with uterine atony - 87.1% and higher during vaginal delivery and slightly lower - during caesarean section.

#### **PURPOSE OF THE STUDY:**

to evaluate the effectiveness of the balloon tamponade method to improve the results of treatment of women with hypotonic postpartum hemorrhage after spontaneous vaginal delivery.

#### **MATERIALS AND METHODS.**

The study was conducted at the Republican Perinatal Center in Tashkent for the period from January 2019 to December 2020. For the study, we selected the birth histories of 60 patients with postpartum hemorrhage after vaginal delivery. Women in labor were divided into 2 groups: group 1 - 30 patients who had balloon tamponade to stop bleeding; Group 2 - 30 patients who were treated by the traditional method without the use of balloon tamponade. The study assessed the primary outcomes, i.e. the volume of blood loss in the III and early postpartum period of labor, the frequency of labor with blood loss of 500 ml or more; as well as secondary outcomes - the frequency of blood transfusion, the use of additional uterotonics, postpartum hemoglobin and hematocrit, the frequency of manual separation of the placenta, the use of additional surgical procedures (balloon tamponade, vascular ligation, hysterectomy, etc.). Balloon tamponade was used in parturient women with blood loss of 500 ml or more with the ineffectiveness of uterotonic therapy.

#### **RESEARCH RESULTS.**

The average age of patients in group I was 28.14 ± 4.95 years, in group II - 26.43 ± 4.74 years ( $p=0.177$ ). The total blood loss in group I was 966.07 ± 337.92 ml, in group II - 769.64 ± 187.83 ml. Hemoglobin at discharge in group I was 96.68 ± 12.26 g/l, in group II - 99.71 ± 11.82 g/l. In the postpartum period, the lochiometer was diagnosed in 3.3% of women in group I and in 26.7% of women in group II. The frequency of blood transfusion in group I was: 30.0% (erythrocyte mass) and 63.3% (fresh frozen plasma), and in group II - 33.3% and 66.7%. Oxytocin was used in both groups in 100% of cases, methylergometrine in 90.0%, enzaprost in group I in

33.3%, in group II in 16.7%. Hysterectomies were not performed.

Summing up the results of the study, we can say that the method of balloon tamponade is an effective method for preventing and stopping postpartum atonic bleeding, which is compatible with other methods of stopping bleeding. This method is non-pharmacological and non-surgical, easy to use, reduces the frequency of postpartum hysterectomy. The method of balloon tamponade preserves the reproductive potential of women, and also improves the quality of life of women.

#### **CONCLUSIONS:**

The use of balloon tamponade for postpartum hemorrhage of more than 500 ml and up to 1000 ml has a faster uterotonic effect than the traditional method. It helps to reduce primary and secondary complications arising from postpartum hemorrhage.

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