ANALYSIS OF CRITICAL CASES IN OBSTETRIC PRACTICE

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Annotation. The authors analyzed critical cases recorded in the Bukhara region in 2018–2020. The first place among critical conditions in obstetrics in the Bukhara region is occupied by bleeding due to emergency surgical delivery. The cause of obstetric hemorrhage was disturbances in the contractile activity of the uterus, as well as extragenital diseases and complications of pregnancy, accompanied by impaired hemostasis. The main indication for emergency delivery was premature abruption of a normally located placenta, or, as planned, a defective scar on the uterus after a cesarean section.

Isolation of the “near miss” condition into a separate group allows for a more in-depth analysis and study of problems in the provision of medical care in obstetric institutions, which in turn contributes to the prevention of maternal deaths.

Key words: critical conditions in obstetrics, “near miss” condition, Bukhara region, defects in the provision of medical care.

Introduction. Based on the results of 2020, the chief gynecologist of the Ministry of Health of the Republic of Uzbekistan, Professor Yusupov U.Yu. reported a decrease in maternal mortality in the Republic of Uzbekistan. “Moreover, maternal mortality, according to preliminary data, has decreased and reached 18.5 per 100 thousand live births.” In 2020, this indicator reflects not only the level of medical care provided, but also characterizes the health of the population of reproductive age; allows you to assess the level of healthcare organization, the success of the implementation and interaction of various programs in social, economic, hygienic, environmental, educational and many other areas; is of national importance, affecting the most promising in terms of age, working age, and sometimes even the young stratum of the population, on which health and population growth in the future also depend. Along with maternal mortality, it is of interest to take into account the so-called indicator of critical cases, “barely surviving”, defined as a condition close to death, but not resulting in it, during pregnancy, childbirth or within 42 days after birth [2, 3].

Purpose of the study: to assess the structure and frequency of critical conditions in obstetrics in the Bukhara region in the period 2018–2020; identify and analyze the

main defects in the provision of medical care; determine the main directions for preventing the development of obstetric critical conditions.

Materials and methods. The structure and frequency of critical conditions in obstetrics in the Bukhara region for 3 years (2018–2020) were retrospectively assessed on the basis of medical documentation. Based on data from colleagues in the Bukhara region, specialists from the Bukhara region "Regional Perinatal Center" introduced a classification of maternal "near miss" patients for objective analysis and formation of a "near miss" cohort [4]. According to this classification, maternal "near miss" is divided into obstetric (emergency), extragenital, planned (managed), organizational, iatrogenic. This differentiated approach to maternal critical conditions allows us to understand not only the cause, but also to develop a plan for further action for each specific group [5]

Research results and discussion. For 2018–2020 On the territory of the Bukhara region, 46 cases of critical conditions in obstetrics were registered. Of all 46 critical illnesses, 26 (57%) cases occurred in level III hospitals. In level II medical organizations, 13 cases (28%) occurred, level I – 7 cases (15%).

When analyzing the existing risk factors, 13 (28%) patients were classified as high risk, 17 (37%) women were classified as medium risk. Of the 46 women, 5 (11%) were not observed for pregnancy at the antenatal clinic, 1 woman (2%) attended the antenatal clinic irregularly and self-medicated for complications of pregnancy (hypertension caused by pregnancy), which as a result contributed to the development of the case of "near miss" (2 attacks of eclampsia). One woman (2%) had an unwanted pregnancy.

The distribution of these cases is presented in Table 1. Of all 46 women, 30 (65%) patients had chronic extragenital diseases, the most common diseases being the cardiovascular system (25%), urinary system (21%), nervous (15%), endocrine (15%), respiratory (6 %), eye diseases (10%), other diseases amounted to 8%. 29 (63%) women had a gynecological history; in 48.3% of cases, cervical ectopia occurred, in 34.5% - sexually transmitted infections, in 13.8% - uterine fibroids, in 13.8% - chronic adnexitis, in 10.3% - infertility of various origins, in 3.4% - endometriosis and polycystic ovary syndrome, in 3.4% of cases pregnancy occurred as a result of in vitro fertilization.

Thus, an approximate portrait of a "near miss" woman in the Bukhara region for 2018–2020. can be represented as follows: a working woman, 25–29 years old, in a registered marriage, with a secondary education, who was registered at the dispensary for pregnancy before 12 weeks, multi-pregnant, with a history of medical abortions, extragenital and gynecological diseases in the stage of compensation, seriously ill affecting reproductive function, the pregnancy of which was accompanied by gestational complications. Blood loss during childbirth was 1500–2000 ml, the

delivery was resolved surgically, and a cesarean section was performed for emergency indications, and as a result, the operation ended with organ-removal manipulations due to the ineffectiveness of other hemostatic measures.

In 2018, 12 women gave birth surgically (75% of all cases of "near miss"), of which 7 were delivered for emergency reasons (58% of all cesarean sections). The main indication for an emergency cesarean section in 2018 was premature abruption of the normally located placenta (PANLP): a total of 7 emergency cesarean sections, and 5 of them for PANLP. In one case (due to uterine imbibition), the scope of the operation was expanded to amputation of the uterus without appendages. One operation, the indication for which was severe preeclampsia, was accompanied by relaparotomy for hypotensive bleeding in the early postoperative period and expansion of the volume until amputation of the uterus without appendages.

During one cesarean section, the indication for which was acute intrauterine fetal hypoxia, a kidney tumor and perinephric hematoma were diagnosed. Further treatment of the woman was carried out jointly with oncologists. 5 operations were performed as planned in 2018 (42% of all cesarean sections), in 2 cases amputation of the uterus without appendages was performed (in one of them - during relaparotomy), in 1 case hysterectomy without appendages. The indications for a planned cesarean section were: in 3 cases - anatomical inferiority of the uterine scar after a previous surgical delivery by cesarean section (in 2 cases - after one operation, in 1 case - after two operations); in 1 case – severe preeclampsia; in 1 case – thinning of the uterine scar.

Table 1. Data from the analysis of critical cases in obstetric practice in the Bukhara region for the period 2018-2020.

Characteristics of the examined patients	2018 **n (%)**	2019 **n (%)**	2020 **n (%)**
Total cases of critical conditions:	17 (100.0)	17 (100.0)	12 (100.0)
– perinatal center (level III hospital)			
– level II hospital	11 (64.7)	9 (53.0)	6 (50.0)
–level I hospital	4 (23.5)	5 (29.0)	4 (33.3)
	2.0 (11.8)	3 (18.0)	2 (16.7)
City resident	6 (35.3)	9 (53.0)	6 (50.0)
Village resident	11 (64.7)	8 (47.0)	6 (50.0)
Age:			
18–19 years old	1 (5.8)	0 (0)	1 (8.0)
20–24 years old	4 (23.5)	1 (5.8)	3 (25.0)
25–29 years old	4 (23.5)	8 (47.0)	3 (25.0)
30–34 years old	3 (17.9)	5 (29.4)	2 (17.0)
35–39 years old	4 (23.5)	1 (5.8)	3 (25.0)

40–45 years old	1	(5.8)	2	(12.0)	0	(0)
Is in a registered marriage	12	(70.5)	13	(76.4)	9	(75.0)
Marriage is not registered	5	(29.5)	4	(23.6)	3	(25.0)
Housewife	5	(29.0)	6	(35.0)	7	(58.0)
Employed woman	12	(71.0)	11	(65.0)	5	(42.0)
Education:						
– higher	5	(29.0)	7	(41.0)	4	(33.0)
– secondary	12	(71.0)	9	(53.0)	7	(58.0)
– primary	0	(0)	1	(6.0)	1	(8.0)
Early attendance at the antenatal clinic (before 12 weeks of pregnancy)	13	(76.6)	10	(58.8)	9	(75.0)
Registered at the antenatal clinic	16	(94.0)	14	(82.0)	11	(92.0)
Not observed during pregnancy	1	(6.0)	3	(8.0)	1	(8.0)
Pregnancy parity:						
–1st pregnancy	3	(18.0)	5	(29.0)	4	(33.0)
– 2nd pregnancy	6	(35.0)	3	(18.0)	1	(8.0)
– 3rd pregnancy	2	(12.0)	2	(12.0)	3	(25.0)
– 4th pregnancy	2	(12.0)	0	(0)	2	(17.0)
–5th or more pregnancy	4	(23.0)	7	(41.0)	2	(17.0)
Abortion history:						
– the proportion of those with a history of abortion among all women in the group	8	(46.0)	5	(29.0)	6	(50.0)
– among those with a history of abortion: spontaneous	2	(25.0)	3	(60.0)	2	(33.0)
– among those with a history of abortion: medication	6	(75.0)	2	(40.0)	4	(67.0)
Extragenital diseases	10	(58.0)	10	(58.0)	10	(83.0)
Gynecological diseases	9 (53.0)		11 (65.0)		9 (75.0)	
Complications of pregnancy	9 (53.0)		12 (71.0)		10	(83.0)
Method of delivery:						
– surgical (caesarean section)	12	(70.5)	13	(76.5)	11	(92.0)
– emergency	7	(58.0)	11	(85.0)	10	(92.0)
– planned	5	(42.0)	2	(15.0)	1	(8.0)
-independent birth	5	(29.5)	4	(23.5)	1	(8.0)
Organ-removing operations: - the proportion of those having organ-removing operations among all women						

in the group	9	(53.0)	6	(35.0)	8	(67.0)
- among women with a history of organ-removing operations: uterine amputation	5	(56.0)	1	(17.0)	4	(50.0)
- among women with a history of organ-removing operations: hysterectomy	4	(44.0)	5	(82.0)	4	(50.0)
Total blood loss:						
– 1000 ml	0	(0)	2	(11.7)	5	(42.0)
– 1000–1500 ml	6	(35.3)	4	(23.5)	1	(8.0)
– 1500–2000 ml	4	(23.5)	3	(17.7)	4	(33.0)
– 2000–3000 ml	7	(41.2)	5	(29.5)	2	(17.0)
– 3000–4000 ml	0	(0)	2	(11.7)	0	(0)
– 4000 ml or more	0	(0)	1	(5.8)	0	(0)
The main cause of the “near miss” case:						
– bleeding	16	(94.0)	12	(70.5)	7	(58.0)
– septic complications	0	(0)	0	(0)	2	(17.0)
– preeclampsia/eclampsia	1	(5.9)	4	(23.7)	2	(17.0)
– pulmonary embolism	0	(0)	1	(5.8)	0	(0)
– pulmonary hypertension	0	(0)	0	(0)	1	(8.0)

In 2019, caesarean section was performed on 13 women (76.5% of all cases of “near miss”), emergency – 11 (84.6% of all caesarean sections). Indications for emergency delivery were eclampsia and severe preeclampsia in 4 cases, PANLP in 4 cases, placenta previa with bleeding in 2 cases, and acute intrauterine fetal hypoxia in 1 case. In 2 cases, relaparotomy was performed, during which ligation of the uterine vessels and internal iliac arteries was performed without the necessary hemostatic effect, and the operations were completed by extirpation of the uterus without appendages.

In one case, the uterus was amputated, in the other, hysterectomy was performed with placenta previa and partial ingrowth of the placenta into the area of the uterine scar. In one case, during an emergency cesarean section for PONRP, a subcapsular rupture of the left lobe of the liver was discovered. Tamponade and suturing of the rupture were performed. One case of cesarean section was complicated by pulmonary embolism, which required prolonged mechanical ventilation. 2 cesarean sections were performed as planned (15.5% of all “near miss” cases), which resulted in an expansion of the scope of intervention to hysterectomy without appendages, in 1 case of which - during relaparotomy.

The indications for elective cesarean section operations were a defective scar on the uterus in one woman after 2 cesarean sections, and in another woman after 3 cesarean sections. In 4 (23.5%) births through the natural birth canal, in 2 cases the early and late postpartum period was complicated by hypotonic bleeding, in 2 cases by

obstetric pelvic hematoma. In 1 case, a laparotomy was performed with ligation of both uterine arteries, opening and drainage of an obstetric pelvic hematoma.

In 2020 11 women were delivered surgically (92% of all cases of "near miss"), of which 10 were delivered for emergency reasons (92% of all cesarean sections). The main indications for emergency cesarean section were: in 2 cases – PANLP; in 1 case – placenta previa with bleeding; in 3 cases – clinically narrow pelvis; in 1 case – premature rupture of water during fetal breech presentation; in 1 case – acute intrauterine fetal hypoxia; in 1 case, premature rupture of water in a woman with pulmonary hypertension of unknown etiology (operative delivery on the recommendation of a cardiologist); in 1 case – eclampsia.

In 2 cases, relaparotomy was performed, during which the uterus was amputated on the 3rd and 8th days after cesarean section. In 1 case, the uterus was amputated for PANLP and multiple uterine fibroids; in 1 case – amputation of the uterus due to uterine hypotension, accompanied by spontaneous rupture of the spleen, retroperitoneal hematoma (splenectomy was also performed during the operation). In 3 cases, hysterectomy was performed: in 1 case - during a cesarean section for PANLP, complicated by hypocoagulable bleeding; in 2 cases – due to a clinically narrow pelvis and uterine atony during surgical delivery.

One cesarean section was performed as planned (8% of all cesarean sections) for an incomplete scar on the uterus after 2 cesarean sections and placenta previa with placenta accreta into the area of the uterine scar, which ended with an expansion of the scope of intervention to extirpation of the uterus without appendages. During spontaneous childbirth, 1 case (8% of all "near miss" cases) was complicated by hypotonic bleeding in the early postpartum period and severe anemia in the postpartum period, requiring transfusion of red blood cells, platelets and fresh frozen plasma.

Thus, for the analyzed period 2018–2020. cases of "near miss" in the Bukhara region, the main indication for emergency delivery of women was PANLP (11 out of 28 cesarean sections performed on an emergency basis, 39%); Severe preeclampsia ranked second (5 out of 28, 18%). The main benefit for the planned delivery of "near miss" women was the thinning of the scar on the uterus (7 out of 8 planned cesarean sections, 87.5%), and 2 out of 7 (28.6%) thinning of the scars on the uterus were an accompanying scar on the uterus there is complete placenta previa with ingrowth into the scar area. During vaginal delivery, the leading cause of critical conditions (8 out of 10, 80%) was postpartum hypotonic bleeding.

In 2018, according to our data, the frequency of critical obstetric conditions in the Bukhara region was 1.3 per 1000 births.

In 2019, the incidence of critical obstetric conditions was 1.2 per 1000. The main cases of "near miss" (56.5%) occurred in a level III hospital due to the timely hospitalization of women within the three-level system of providing medical care to mothers and children. At level II, 28% of "near miss" cases occurred, at level I – 15%,

which was a consequence of underestimation of certain risk factors for the development of “near miss” cases. All cases of critical conditions that occurred in the region were discussed at meetings of medical commissions of medical organizations in the region with the adoption of management decisions in order to prevent such situations. Monitoring and counseling of women regarding critical conditions is carried out with visiting anesthesiology and resuscitation obstetric teams.

When assessing the quality of medical care, the commission assessed the outpatient and inpatient stages of medical care. At the outpatient stage, in 61.9% of cases, medical care was provided without defects. In 12% there was a lack of follow-up in dynamics, in 18.6% there was an underestimation of the diagnosis of pregnancy complications. An incomplete scope of diagnostic measures for extragenital diseases was detected in 8.6% of cases. 11% of pregnant women received therapy that did not comply with the protocols; in 15.2% of cases, untimely referral for hospitalization was noted.

When checking the inpatient level of medical care, the absence of defects was found in 74% of cases. In other cases, the defects were distributed as follows: underestimation of the severity of the patient’s general condition – 11%, violation of routing – 13%, deficiencies in diagnosis and treatment – 15.2%, lack of follow-up – 4%. In 35% of cases, there was a violation of responsibility on the part of patients: late first appearance - 13%, lack of follow-up - 13%, refusal of hospitalization - 8.6%.

Factors that could prevent the development of critical conditions: early diagnosis of the pathological process, strict adherence to algorithms and clinical recommendations (protocols) for critical conditions (33%); timely hospitalization of the patient according to a three-level routing system (30%); qualifications of specialists (8.6%); if indications arise - consultation with specialists, use of additional research methods according to the profile (15%); taking into account clinical, laboratory data, consultants’ opinions (4%).

Conclusion. Thus, summarizing the results of the analysis of critical cases and maternal mortality, we can draw the following conclusion.

An audit of “near miss” cases make it possible to identify the causes of the development of critical conditions and defects in the provision of medical care at all stages, thereby facilitating the development of measures to prevent these situations in the future. The leading place among all critical obstetric situations in the Bukhara region, regardless of the method of delivery, is occupied by bleeding, which was mainly a complication of the existing extragenital pathology, the implementation of risks for the upcoming pregnancy and childbirth, and surgical delivery was carried out mainly as an emergency.

The main indication for a planned cesarean section was a scar on the uterus, including with placenta previa and accretion of the placenta into the scar area; In most cases, the indication for emergency treatment was PONRP. The main reason for the

development of the “near miss” condition after spontaneous childbirth was hypotonic bleeding.

Thus, the fight against obstetric hemorrhage is a priority in the work of the obstetric and gynecological service of the Bukhara region, and in our opinion, the prevention of obstetric hemorrhage is as follows:

1. it is necessary to introduce and restore forecasting and personification taking into account risk factors into the practice of outpatient monitoring of pregnant women;

2. in compliance with procedures, standards and clinical protocols for diagnosis and treatment with the involvement of specialized specialists.

3. in mandatory compliance with the criteria by which the stages of medical care are determined, the hospitalization of pregnant women in obstetric hospitals in accordance with the degree of risk;

4. in teamwork and in the multidisciplinary approach of specialists providing medical care to pregnant women, women in labor, and postpartum women;

5. Delivery of women at high risk of massive obstetric hemorrhage should be carried out as planned, taking into account timely hospitalization.

6. restore prenatal training departments in hospitals, where the risks of the upcoming birth in terms of bleeding, perinatal pathology are additionally objectively assessed and the issue of transferring the pregnant woman to a higher level of care is resolved in a timely manner.

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