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The State of Indicators of Hemostasis Parameters and Blood Parameters in Patients of the Control Group, Drugs for Prophylactic Purposes were not Administered During Cesarean Section

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Abstract
Caesarean section (CA) (caesarean section) is a surgical operation in which the pregnant uterus is cut, the fetus and afterbirth are removed, the integrity of the uterine wall is restored. KS is one of the most common operations in obstetric practice, related to emergency aids, which should be able to be performed not only by every obstetrician-gynecologist, but also by a doctor of any specialty who owns surgical techniques. In modern obstetrics, KS is of great importance, since with a complicated course of pregnancy and childbirth, it allows you to preserve the health and life of the mother and child. CS as any surgical intervention can have adverse consequences both in the immediate postoperative period (bleeding, infection, pulmonary embolism (PE), OS embolism, peritonitis), and in the remote periods of a woman's life.

Keywords: cesarean section, pregnancy, laparotomy, bleeding.

Introduction

The rise in caesarean section (CS) rates worldwide is becoming a major public health problem and a source of considerable debate due to potential maternal and perinatal risks, cost issues, and inequities in access.The increase in CS rates observed in many developed and middle-income countries contrasts sharply with the very low rates in many low-resource countries, along with a lack of access to emergency obstetric care[1,3,7].

The underlying determinants of this disparity and the specific reasons for the increase in CS rates in most parts of the world remain unclear.In order to propose and implement effective measures to reduce or increase the incidence of CS, where appropriate, it is first important to determine which groups of women undergo CS and to investigate the underlying causes of trends in different settings[4,8,10].

This requires the use of a classification system that can best monitor and compare QE scores in a standardized, reliable, consistent and action-oriented manner. Such a

classification system should be internationally applicable and useful to clinicians and public health authorities. Ideally, such a system should be simple, clinically meaningful, accountable, reproducible and verifiable[2,5,6].

Hemostasis is a complex dynamic balance involving procoagulants, the natural anticoagulant system, and fibrinolysis. Normal human pregnancy is associated with profound changes in the process of hemostasis, so that the procoagulant effect becomes dominant. There are very few studies that have attempted to elucidate the adaptations that take place in the uteroplacental circulation, where the hemostatic system is faced with the conflicting tasks of maintaining blood flow during pregnancy in preparation for the hemostatic challenge of childbirth[5,9].

The human hemostasis system consists of many independent but inextricably linked cellular and protein components that maintain blood flow under normal conditions and promote localized, temporary clot formation at sites of vascular injury.

The hemostasis system is highly regulated and maintains a delicate balance between a prohemorrhagic state and a prothrombotic state. Any significant acquired or congenital imbalance of hemostatic scales can lead to a pathological outcome. With a normal pregnancy, there is a pronounced increase in procoagulant activity in the mother's blood, characterized by an increase in the level of factors VII, X, VIII, fibrinogen and von Willebrand factor, which is maximum at full term[6,9,10].

During gestation, not only the number of blood cells changes, but also their shape and size. An increase in cell size enhances their aggregation, thereby increasing its viscosity.

The purpose of the study: To study the status of hemostasis parameters and blood parameters in patients in the control group without prophylactic drugs during caesarean section.

Research materials and methods:

In accordance with the goals and objectives, this scientific research work was carried out at the Department of Obstetrics and Gynecology No. 2 of the Bukhara State Medical Institute.In this regard, in this work, we considered it appropriate to present materials on the study, analysis and evaluation of peripheral blood parameters of pregnant women (hemograms) and parameters of coagulation hemostasis (hemostasograms) in pregnant women, prophylactic drugs during cesarean section.

Research results:

In order to evaluate the effectiveness of the developed method, a comprehensive clinical and laboratory examination of patients was carried out before surgery, on the 1st day of the postoperative period.The volume of blood loss was assessed using a measuring

container, weighing napkins, and changes in laboratory parameters in the preoperative period.

The obtained results show that the parameters of the peripheral blood of pregnant women with a physiological course (n=30) significantly differed from those of the reference data.

Table 3.1 Comparative indicators of peripheral blood before and after caesarean section (hemograms) of pregnant control groups (n=30).

Indicators	Referencedata	Controlgroup, n=30	
		Before operations	After operations
Erythrocytes, 10^{12}/l	4,2±0,2	3,2±0,10*	3,1±0,16
Hemoglobin, g/l	123,8±0,5	99,9±3,2**	98,9±0,9
Leukocytes, 10^{9}/l	5,8±0,5	7,2±0,5*	7,8±0,3
Platelets, 10^{9}/l	232±12	214±32*	212±1,9
Neutrophils n/a, %	3,1±0,6	3,8±1,2	3,6±1,1
Neutrophils, n / i, %	57,4±1,0	52,5±1,7*	52,2±1,5
Lymphocytes, %	19,3±1,1	22,4±1,2*	22,4±0,9
Monocytes, %	3,1±0,2	4,4±0,8*	4,2±0,7
Hematocrit, %	36,7±0,1	32,2±0,8*	30,4±1,2
ESR, mm/h	10,2±0,3	12,6±0,5*	12,4±0,14

Note: * - reliability of differences from the parameters of the reference data;

The obtained results show that the peripheral blood parameters of pregnant women from the control group (n=30) significantly differed from those of the reference data.

Thus, there was a decreaseinthenumberoferythrocytesby 1.31 times (P<0.05) in women from the control group before treatment and by 1.35 times (P<0.05) inthecontrolgroupaftertreatment (Table 3.1).

We observed the same picture in terms of hemoglobin, where a decrease in women who did not receive the above drugs for prophylactic purposes during a cesarean section. Before and after caesarean section were 1.24 and 1.25 times, respectively, in relation to the data of non-pregnant women (P<0.05). Leukocytes, on the contrary, were significantly elevated in both compared groups (P<0.01).

Stab (n/a) and segmented (s / n) neutrophils changed in the examined in different directions, if p / n in pregnant women of both groups were significantly increased (P<0.05 - P <0.001), then s / i neutrophils were significantly reduced (P<0.05 - P<0.001).

Also noteworthy is the hematocrit (total volume of erythrocytes), which turned out to be significantly reduced in women from the control group before and after treatment in

relation to the reference data (respectively 32.2±0.8% and 30.4% versus 36.7±0 .1%, P<0.05 - P<0.001).

ESR in pregnant women from the control group before and after treatment was significantly increased by 1.80 and 1.82 times in relation to the reference (P<0.05), but is at the level of the upper limits of the norm, which indicates the absence of a pathological process, but the presence signs of a prepathological condition in these women.

Thus, a comparative analysis of peripheral blood parameters in pregnant women from the control group before and after treatment showed that all 10 parameters studied were significantly different from the reference data. If the indicators of the number of erythrocytes, hemoglobin from / I neutrophils, hematocrit in peripheral blood were reduced, then the number of leukocytes, n / I neutrophils, monocytes, ESR turned out to be significantly increased.Only the relative number of lymphocytes changed in different directions. The revealed violations indicate the presence of a pre-pathological condition and the development of a pathological process that occurs with impaired hemodynamics, as well as tension in the body's immune system.

Table 3.2 Indicators of coagulation hemostasis (hemastogram) in pregnant women before and after surgery in the control group (n=30).

Indicators	Referencedata	Controlgroup, n=30	
		Before operations	After operations
APTT, sec	27,3±0,5	43,3±0,8*	45±1,3**^
PV, sec	12,1±0,1	12,2±0,2	23± 0,4**^^
Thrombintime, sec	13,3±0,5	12,7±0,8	13,5±0,4*^
Fibrinogen, g/l	2,4±0,4	4,5±1,2*	6,4± 0,2 ***^^
D-dimer, ng/ml	251,6±24,6	663,0±74,7*	864±81,2 ***^^
INR	0,9±0,05	3,8±0,01	4,4±0,08 ***^^
PTI, %	81,4±0,4	84,4±0,3*	108±1,1**^^

Note: * - differences relative to the reference data are significant (* - P<0.05, ** - P<0.01, *** - P<0.001), ^ - differences relative to the data before the operation are significant (^^ - P< 0.01)

Prothrombin time (PT) is a measure of the extrinsic pathway of blood clotting. It has been established that in a physiologically proceeding pregnancy, PT before surgery is 12.2 ± 0.2, after surgery 23 ± 0.4 seconds, it can be seen that PT lengthens after surgery, when drugs are not taken.

Thrombin time (TT) analysis is the main test in clinical laboratories that perform coagulation tests. This analysis reveals abnormalities in the conversion of fibrinogen to fibrin. The time required for fibrinogen clotting is affected by hypofibrinogenemia,

dysfibrinogenemia, and the presence of inhibitors of the fibrinogen-fibrin reaction (heparin, hirudin, fibrin degradation products, and paraproteins). In this regard, the definition of this indicator is of great clinical importance.

For this reason, this parameter was studied in our studies. It was established that the thrombin time in pregnant women of the control group remained at the level of standard values, not significantly differing from them ($P<0.05$). The parameters of the patients of the group before and after the operation, on the contrary, were significantly increased (13.5±0.4 sec, $P<0.05$). This fact indicates that thrombin time is prolonged after caesarean section.

The authors' studies have established that fibrinogen is a blood-borne glycoprotein consisting of three pairs of non-identical polypeptide chains. After vascular injury, fibrinogen is cleaved by thrombin to form fibrin, which is the most common component of thrombi. In addition to controlling blood loss at sites of tissue injury, other properties of fibrinogen have recently been discovered.For example, various fibrinogen and fibrin cleavage products released during coagulation and fibrinolysis, respectively, regulate cell adhesion and spread, exhibit vasoconstrictive and chemotactic activity, and are mitogens for several cell types, including fibroblasts, endothelial and smooth muscle cells. Current research is aimed at identifying bioactive fragments of fibrinogen molecules and cellular receptors involved in these processes [].

Our studies have established that the content of fibrinogen in the control groups before caesarean section increases by 1.87 times (4.5±1.2 g/l versus 2.4±0.4 g/l) in relation to the reference data ($P<0.001$). In the control groups after caesarean section, it increased even more, reaching 6.4 ± 0.2 g/l, which is 2.70 and 1.44 times significantly more in relation to the reference values ($P<0.01$) and up to cesarean section operations ($P<0.01$).D-dimer is a soluble fibrin degradation product resulting from the orderly breakdown of blood clots by the fibrinolytic system. Numerous studies have shown that D-dimer is a valuable marker of coagulation and fibrinolysis activation.

It was found that in the studied women, the level of this indicator in the peripheral blood increases. Our studies confirm the above fact, that is, the increase in D-dimer in patients with caesarean section is 1.30 times (864±81.2 ng/ml versus 663.0±74.7 ng/ml, $P<0.001$).

INR in patients with pathologies in the hemostasis system of the studied groups was significantly increased between before and after surgery ($P<0.05$), then PTI was slightly increased (up to 108±1.1%, $P<0.01$) in relation to abstract indicators.

Thus, the determination of indicators of coagulation hemostasis in the control groups, that the parameters change in different directions. If in women from the control group 7 indicators of hemastograms, all indicators changed within the boundaries of normal values. Reliably, however, almost all data were above or below the limits of normal values. A sharp increase in fibrinogen and D-dimer indicated the depth and degree of development of the pathological process.

Thus, the results of the study showed that the amount of intraoperative (direct) blood loss in patients of the control group was 980±110.0 ml, respectively. Thus, the puerperas of the control group were discharged after caesarean section in 8-10 days.

References

1. Akhmedov F.K., Kurbonova Z.Sh. Uric acid is a marker of development of preeclampsia. - 2017. - No. 3-4(II). - S. 27-29.
2. Akhmedov F.K., Negmatullaeva M.N., Osobennosti state of central hemodynamics and hemostasis in pregnant women with preeclampsia of different degrees and severity// Novyy den meditsiny. - 2020. - #1(29) - S. 147-150.
3. Tuksanova D.I. Osobennosti sostoyanie parameters homeostasis and cardiohemodynamics u genshchin s fiziologicheskim techeniem beremennosti// Novyy den meditsiny. - 2019. - No. 1(25). - S. 159-163.
4. Tuksanova D.I. Osobennosti izmeneniy pokazateley sistemnogo i organnogo krovotoka u ginschin pri tyajyoloy preeclampsiai// International Kazakh-Turkish University "Sovremennaya meditsina traditsii i innovatsii". - Kazakhstan 2018. - S. 151-155.
5. Buyanova S.N., Yudina N.V., Barto R.A. Rare complications of caesarean section - vesicouterine fistulas // Ros. vestn. obstetric gin. 2018. No. 3. P. 83–87. 18.
6. Zharkin N.A., Prokhvatilov S.A., Burova N.A., Gavrilchuk T.K. Surgical reconstruction of the scar on the uterus during pregnancy. Indications, conditions and risks // Obstetrician. and gin. 2018. No. 10. P. 142–147.
7. Rakhimova G. Modeling of acute traumatic brain injury in white mongrel rats //Академические исследования в современной науке. – 2022. – Т. 1. – №. 19. – С. 206-208.
8. Shamsievna, R. G. (2023). The Leading Mechanisms of the Pathophysiology of Traumatic Brain Injuries. *Scholastic: Journal of Natural and Medical Education*, *2*(3), 115–119.
9. RAKHIMOVA G. NEW DAY IN MEDICINE //NEW DAY IN MEDICINE Учредители: Бухарский государственный медицинский институт, ООО" Новый день в медицине". – №. 2. – С. 197-200.
10. Shamsievna R. G. Modern Aspects of Studying the Features of Morphofunctional Characteristics of Testes under Various Factor Influences //Eurasian Scientific Herald. – 2022. – Т. 7. – С. 279-286
11. Rakhimova, G. Sh. Experimental modelling of traumatic brain injury in white rats / G. Sh. Rakhimova // New Day in Medicine. – 2021. – No 2(34). – P. 197-200. – EDN QAXLFO.
12. Gur'ev D.L., Trokhanova O.V., Gur'eva M.S., Abdullaeva H.G. Application of the Robson classification to analyze the work of an obstetric hospital of the 3rd level and

search for ways to reduce the frequency of caesarean section // Mother and Child in Kuzbass. 2018. No. 4. P. 70–74.

13. Radzinsky V.E., Logutova L.S., Krasnopolsky V.I. C-section. Problems of abdominal obstetrics / ed. IN AND. Krasnopolsky. Special Publishing House of Medical Books (SIMK). 2018. 224 p.

14. Shchukina N.A., Buyanova S.N., Chechneva M.A., Zemskova N.Yu. and others. The main reasons for the formation of an inconsistent scar on the uterus after cesarean section // Ros. vestn. obstetric-gyn. 2018. No. 4. p.

15.Savelyeva G.M., Breslav I.Yu. Rupture of the operated uterus during pregnancy and childbirth // Vopr. gin. , midwife. and perinatol. 2015. V. 14, No. 3. S. 22–27.