МЕДИЦИНСКИЕ НАУКИ

VAGINAL BIRTH AFTER CESAREAN DELIVERY: MATERNAL AND PERINATAL COMPLICATIONS

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АННОТАЦИЯ. Целью исследования было определение распространенности осложнений у матери и плода в случае влагалищных родов на рубцовой матке. Исследование случай-контроль включало базовую группу из 90 беременных с рубцом на матке у которых были влагалищные роды, и контрольную группу из 90 беременных с рубцом на матке которые родили через кесарево сечения. Снижение воздействия на здоровье женщин было установлено в случае естественных родов. Роды на рубцовой ткани после кесарева сечения или влагалищных родов не повлияло на перинатальные исходы.

Abstract. The purpose of the study was to identify the incidence of maternal and fetal complications in case of vaginal birth with scarred uterine tissue. The case-control study included the basic group of 90 pregnant women with scarred uterus who experienced a vaginal birth, whereas the control group included 90 pregnant women with a scarred uterus after a cesarean delivery.

Results: in case of natural vaginal birth, a low impact on women's health has been established whereas the behavior of labor on scar tissue after cesarean or vaginal birth did not influence perinatal outcomes.

Ключевые слова: рубец на матке, кесарево сечение, естественные роды

Key words: uterine scar, cesarean section, vaginal birth

Actuality of the topic. Until present, labor management for uterine scar still remains a controversial topic in obstetrics. In 1980, the US National Institutes of Health in collaboration with the American College of Obstetricians and Gynecologists (ACOG) concluded that the uterine scar resulting from a cesarean surgery is not already an absolute indication for repeated cesarean surgery. Over the last decade, cesarean delivery has become increasingly more common in both highly developed and developing countries. According to the 2011 statistical data, the cesarean delivery rate was similarly distributed in Bulgaria - 33.1% of cases, in Germany - 32.1% of cases, in Estonia - 20.2%, in Georgia - 34, 7% of cases, and in Austria - 28.3% of cases.

In Turkey the same year, the number of births via C-section had a greater incidence that made up 47.7% of cases [1]. However, the presence of uterine scarring may have a negative impact on female reproductive health, such as a decreased number of subsequent births, which involves reducing the birth rate and increasing the rate of developing complications of placenta insertion hence leading to a life-threatening condition for the women resulting in massive bleeding. [2]

ACOG experts consider vaginal delivery after a previous caesarean birth much safer than a repeated cesarean surgery. Currently, women who opt for a vaginal birth after a previous cesarean delivery, have a success rate of 60 % - 80% to achieve a positive and risk-free outcome [3].

The reasons for a precautionary approach of vaginal births in women with scar tissue is the risk of a uterine rupture. According to data from the American College of Obstetricians and Gynecologists, if the previous cesarean section was performed in the lower segment of the uterus, then the risk of a uterine rupture makes up 0.2% - 1.5%, viz. 1:500, and in case of a vertical incision used in classical C-section, viz. the risk of a uterine rupture ranges between 4% - 9% [4]. The contradictions of literature data, as well as the steady increase in the number of women with scarred uterus, have led to performing this study, which aimed at investigating the incidence of maternal and fetal complications in case of uterine scarring.

Material and methods. The case-control study, which was carried out during the years 2016-2017 at the Municipal Clinical Hospital no.1 in Chisinau, in the obstetric units 1, 2, and 3, included 180 women divided into two groups: the basic group consisted of 90 women with a scarred uterus who gave birth naturally, and the control group - 90 women with a uterine scar who underwent a caesarean section.

The criteria for inclusion in the study were as follows: any pregnant woman who has a uterine scar after a previous cesarean surgery, myomectomy or salpingectomy and who gave birth within MCH no. 1 during the study period.

The exclusion criteria were as following: absence of uterine scars, presence of uterine scars but associated with uterine abnormalities (uterus saddle, bicornuate uterus, double uterus), presence of 2 and more scars on the uterus.

Results and discussions. Of the 90 vaginal on scar tissue, 50 cases were recorded in 2016 and 10%

less in 2017, being considerably decreased in number. A decreased number in births on the scar tissue may be explained due to the popularization of births via C- section and thus the categorical insistence of patients, who are guided by the outdated principle that a C-section is always required after a previous caesarean delivery. It is important to focus more on educating and informing the patients on the possibilities of pregnancy termination in case of vaginal birth on the uterine scar.

According to the study results, for both basic and control groups, an increased incidence of births on scar tissue was recorded in patients aged 28-32 years. Thus, the basic group included 45.56% of cases and the control group - 48.89% of cases, followed by the age group of 23-27 years that made up 25.56% of the cases from the control group and 27, 78% of cases from the basic one. The age limits for the control group were 22 years and 40 years, the mean age being of 30 ± 3.85 years. The mean age for the basic group was 29.95 ± 5.35 years, while the age limits ranged between 22 and 43 years.

An increased birth rate for caesarean section was recorded between the ages of 23-32 years. Thus, about 3 out of 4 patients from the control group were women in the most fertile period of life, whereas 2 out of 3 women in the basic group were 28-37 years old.

The most common cause of the uterine scar was the caesarean surgery for both groups, being registered in 95% of cases. Salpingectomies and myomectomies were less common (2.22% and 3.33% of cases, correspondingly). The results of the study are similar to those described in specialized literature.

The analysis of the gestational period of the patients from the basic group showed that 63.33% of second birth cases occurred naturally, which decreased to 25.56% in third gestation cases, compared to the control group with 78.89% of cases who gave birth repeatedly via caesarean section.

Among the factors associated with the increased risk of uterine rupture is the gestational interval of less than 24 months. Within the present study, 17 cases (18.89%) from the main group and in 20 cases (22.22%) (RI- 0.45-1.91, P = 0 , 84) from the control group presented this age.

The analysis of patient' anamnesis showed that vaginal birth was twice as common among women from the main group. Thus, out of 90 cases of scarred uterus, 1 out of 3 women experienced a vaginal birth (RI= 1.13-4.47, p = 0.01). Therefore, the presence of vaginal births within patient's anamnesis is an important factor in determining the methods of labor management on the scar tissue.

The study showed that the most common births were registered at 37-40 weeks of pregnancy. Thus, 85% of parturients from the main group were in advanced pregnancy and gave birth on time, and 15% of women gave birth prematurely. The results were similar within the control group, with predominant 37-40 weeks birth deliveries in 86% of the cases, and early - term deliveries of less than 37 weeks in 14% of cases. These data correspond to the results of the study conducted by Lalla Meryem within the University Hospital Casablanca Ibn Rochdale, where 91.6% of parturients had a full-term pregnancy, 7.2% of cases had early-term deliveries and 1.2% cases gave birth beyond 42 weeks.

The pregnancy weight is a major factor influencing a successful vaginal delivery. The study results are valid for both lots and showed that each of the 2nd parturient was overweight, which posed an increased risk for a vaginal delivery. One in three women suffered from morbid obesity of varying degrees and only 1 in 5 women had a normal weight. Therefore, it could be concluded that the normal BMI ranging between 18.50 and 24.99 is a favorable factor that increases the successful birth rate on scar tissue. (RI 0.63-2.68, p = 0.46).

Ultrasound assessment of scar thickness is an indicative parameter in labor behavior. Based on the literature data, the risk of uterine rupture is directly related to the scar thickness. The scar of less than 3 mm thickness was found in 6.67% of the cases of the present study in the basic group and in 8.89% of cases from the control group. (RI 0.24-2.20, p = 0.57).

Fundal height measurement is a relative factor for assessing the uterine supradistension. According to our own data, each second pregnant woman had the uterus height of more than 36 cm. The study conducted by Mahamadou F. Coulibaly in the period of 1 January - 31 December 2006 reported different data compared to our results, thus only 17.2% of the parturients had the uterine height greater than 36 cm and most women (69.8% cases) had a 32-36 cm height.

Duration of labor is an important criterion in assessing the labor dynamics when the delivery is being planned on the scar tissue. The analysis of the study results showed that in most cases the duration of birth lasted 6-12 h, viz. 64 vaginal births, which makes up 71.11% of cases. We can conclude that our study results are similar compared to literature data.

The birth weight greater than 4000 grams is considered a risk factor in case of birth on scar tissue. Eight macrosomic babies born vaginally on scar tissue were registered within the basic group, viz. 8.89% of cases, and 7 macrosomic newborns were found within the control group, whereas compared to F. Coulibaly's study, there were only 3.1% of recorded cases of this phenomenon.

The condition of the newborn at birth was assessed via Apgar score. The Apgar score performed at 1 minute of neonatal life was evenly distributed for both groups, regardless of labor management - per vias naturalis or caesarean section. In 90% of cases, newborns presented a 7-8 point score. There were two cases of antenatal deaths in the basic group and four cases in the control group, respectively.

The Apgar score at 5 minutes of life was almost equally distributed in both groups, whereas 3 out of 4 children showed a 7-8 point score, while the rest of babies were scored with 9-10 points. Therefore, it can be concluded that deliveries both on a scarred uterus or via a caesarean surgery do not affect the perinatal outcomes.

Another important parameter is the amount of blood loss during the childbirth. The patients included in the study exhibited a lower amount of blood loss in

vaginal delivery on the scar tissue. Low amount of bleeding influences positively the body's homeostasis, thus reducing the occurrence of developing complications. 3 out of 4 women from the basic group had a blood loss of 200-300 ml., whereas 3 out of 4 patients within the control group had a 600-700 ml amount of blood loss. Hence, the amount of blood loss is highly essential for the body, but yet common for cesarean surgeries. Hypotonic hemorrhage was recorded in 3% of cases in the basic lot and 23% in the control group, thus being the most common complication in births on a scarred uterus.

The interrelation of maternal anemia and labour management was analyzed within the study. There was an increased risk of postpartum anemia in women who gave birth via a caesarean section. Therefore, anemia of varying degrees developed in 60% of births on scar tissue. Vaginal birth on scar tissue showed a much lower risk of developing anemia, which was registered in only 16% of cases (RI 0.06-0.26, p <0.0001). Conclusively, the results are more beneficial for maternal health in vaginal births on scar tissue than births via a cesarean surgery.

Labor results in scar tissue births showed that in 86% of cases births occurred spontaneously. Vacuum was applied in 4 cases of fetal distress, and episiotomy in 10% of cases.

The hospital stay was much lower for the basic group and ranged from 1 to 5 days averagely while the mean duration was 2.43 ± 0.84 days, the median being 2, whereas the hospital stay within the control group ranged from 2 to 8 days, the mean duration being 3.26 ± 1.18 days, and the median - 3. Based on these results, there was attested an increase in day / bed costs in patients with cesarean surgeries. Therefore, vaginal birth on a scar tissue is more cost-effective.

Conclusions

1. The labor management on scarred uterus is determined by several important factors. The following data should be assessed in order to admit the patient to the labor admmission test (LAT): number of previous pregnancies and their outcomes, the interpregnancy interval, the cause of the previous cesarean pregnancy, vaginal delivery experience, satisfactory thickness of the uterine scar, the absence of pain on the scar, the cranial presentation of the fetus, spontaneous labor onset.
2. Based on our study results, we have concluded that vaginal birth approach presents a lower impact on women's health. A lower risk of developing anemia after bleeding has been observed.
3. Perinatal results in case of a scarring uterine birth were approximately equally distributed in both groups, with 3 out of 4 children being assessed with 7-8 points via Apgar score. Therefore, the labor management on scar tissue via cesarean or vaginally does not affect the perinatal outcomes.

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ALGORITHM OF INTERDISCIPLINARY TREATMENT OF PATIENTS WITH OCCLUSION ABNORMALITIES COMPLICATED BY PERIODONTIUM PATHOLOGY

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Summary: This article deals with the problems of occlusion abnormalities treatment of adult patients with periodontal diseases. We analyzed 15 clinical observations of patients with generalized periodontitis with intact tooth rows. It was carried out comprehensive rehabilitation of patients on the proposed medical - diagnostic algorithm, detected the necessary participation of dentists of various specialties. On the basis of the study it was found that the use of modern non-removable devices using the principle «Edgewise» allows to apply small orthodontic forces to normalize abnormal position of individual teeth and adnormal form of dentition, maximally eliminate additional boundary periodontal trauma and redistribute chewing load.

Key words: periodontal diseases, occlusion anomalies, adults, Edgewise technique, shtriping, remineralization, splinting.

Relevance. Treatment of adult patients with tooth-jaw deformities that developed against the background of periodontal diseases is an urgent problem in dentistry, due to pronounced violations of morpho-functional-aesthetic optima.