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MISCARRIAGE PREVENTION IN MULTIPARA WOMEN IN THE SECOND TRIMESTER OF PREGNANCY

Abstract. *The efficacy of the suggested methods to prevent miscarriage is in reliable and considerable decrease of perinatal complications occurring during pregnancy of multipara women and in particular: gestation anemia (in 2,5 times), threat of preterm delivery (in 4,6 times), placental dysfunction (in 2,6 times), disorders of vaginal microbiocenosis (in 2,2 times), preterm delivery (in 2,8 times), premature rupture of the amniotic sac (in 2,6 times), developmental retardation of the fetus (in 3,2 times), fetal distress (in 3,6 times), and abdominal delivery (in 2,9 times).*
Key words*: miscarriage, multipara women, prevention.*

Introduction. Increase of the number of multipara women is a topical issue for obstetrical and perinatal pathology. It is a well-known fact that women after the third labour constitute a high risk group concerning the development of various complications during pregnancy and labour. Among the main causes of this situation there is a high level of comorbid extra-genital pathology, psycho-emotional tension, and poor economic situation. In spite of numerous publications in modern literature concerning pregnancies and labour in multipara women all the issues cannot be considered solved completely.

One of the most important complications of women from this group is the danger of miscarriage. From one side it is caused by a high risk of preterm labour, and from another side – the absence of an accurate algorithm and specific practical recommendations concerning this issue.

A topical issue to prevent preterm labour in women who had three and more labours in their anamnesis is that it is better to prevent the birth of a preterm child than to fight with its consequences and neonatal complications after delivery. Elaboration of priority effective preventive measures and detection of risk factors promoting the development of preterm labour in women of this group will enable to prevent the birth of deeply preterm children and decrease the number of perinatal complications.

One of the reliable and objective risk factors promoting development of preterm labour is uterine cervix failure. This risk factor was determined by the data of the retrospective analysis as well as during instrumental methods of examination during pregnancy – vaginal cervicometria. Diagnosed isthmic-cervical failure (ICF) is one of the valuable causes of miscarriage in II and III trimesters of gestation. According to the information suggested by leading specialists, timely diagnostics and treatment of ICF is an important measure to prevent preterm labour.

The necessity to improve the methods of diagnostics and treatment of ICF during pregnancy in multipara women is indicative of the topicality of the investigated scientific issue in solution the problem and decrease of obstetrical and perinatal pathology.

Objective: to reduce the frequency of miscarriage in II and III trimester and perinatal pathology in multipara women on the basis of investigation of anamnesis, echographic, endocrinological, biochemical and organic peculiarities, as well as by means of elaboration and introduction of an advanced algorithm of therapeutic-preventive measures.

Materials and methods. Retrospective analysis and the study were carried out in the dynamics during 2014-2017 on the basis of Maternity Home №2 in Chernivtsi at the Department of Obstetrics, Gynecology and Perinatology. According to the objective set the study was carried out into two stages.

I stage (retrospective study) –110 women were examined including 60 multipara women with the

signs of ICF. This group was divided into 2 subgroups: I subgroup (the main one) – 30 pregnant multipara women with preterm labour in anamnesis, and with an improved algorithm of therapeutic-preventive measures used during pregnancy directed to prevention of miscarriage;

II subgroup (the main one) – 30 multipara women with preterm labour in anamnesis receiving common therapeutic-preventive measures.

The control group included 50 healthy women without preterm labour in anamnesis.

All the pregnant women were comprehensively clinically examined considering their complaints, the data of anamnesis, objective and instrumental methods of examination. Women with signs of inflammatory diseases of the female reproductive organs were not included into the study. The applied methods of examination are safe for the development of pregnancy, mother and fetus, rather informative for objective assessment of the functional state of the uterine-placental-fetal complex. All the women were examined by means of similar methods, and the same devices were used including the influence of a possible error peculiar for any invasive method of examination.

General management of women during pregnancy was carried out according to the recommendations and Orders of the Ministry of Public Health of Ukraine (№417 dated 15.07.2011 «On Organization of Out-Patient Obstetrical-Gynecologic Aid in Ukraine», № 906 dated 27.12.2006 «On Approval of Clinical Protocol in Obstetrical Aid "Perinatal Infection", and №624 dated 03.11.2008 «On Approval Clinical Protocols in Obstetrics and Gynecology «Preterm Labour»). The women from II subgroup of the main group were treated according to the common therapeutic-preventive measures according to the protocols of the Ministry of Public Health of Ukraine including hormonal correction, vitamins, antioxidants, spasmolytics and anti-aggregants, drugs of tocolytic action, vasoactive drugs and antibacterial drugs according to indications.

We have improved the preventive method, which was the following:

1. The following parameters were used in case of diagnosed ICF by means of trans-vaginal cervicometria performed at the period of 18-22 weeks of pregnancy: isthmic-cervical coefficient (ICC) and isthmic coefficient (IC). In case of ICC > 0,22 and IC> 1,6 the diagnosis of ICF was made.

- The obstetrical Arabin cervical pessary is used with the purpose to continue pregnancy. USD (trans-vaginal cervicometria) determined the condition of the uterine cervix and its parameters – the length of the uterine cervix canal, diameter of the internal orifice, the length of isthmus, and on the basis of these parameters ICC and IC were calculated. In case of ICC more than 0,22 and IC more than 1,6 ICF was diagnosed and Arabin cervical pessary was placed. Indications to place Arabin cervical pessary:
- Functional and organic ICF
- Prevention of ICF in pregnant women
- Prevention of suture failure in case of surgical correction of ICF.

2. Administration of a comprehensive maintaining therapy:

- Progesterone (in the dose of 200 mg/day till 37 weeks of gestation)
- A complex medicine: iron hydroxide, polymaltose (100 mg)+ folic acid (0,35 mg) per 1 tablet 2 times a day till hemoglobin level is normal, and then 1 tablet till delivery;
- From the moment of placement of the pessary – vaginal suppositories with chlorhexidine (once a day) and probiotics (vaginal capsules once a day).
- L- arginine (500 mg during 10 days).

The course of the suggested method was 10-14 days in the term of 22-24 weeks and 32-34 weeks of gestation. The terms were selected considering peculiarities of placentogenesis and stages of formation of the fetal-placental complex (FPC) and common critical terms of gestation. The duration and quality of the suggested preventive measures depended on the results of the instrumental methods of examination.

The complex of the examinations performed included statistical, clinical, echographic, cardiotocographic, Doppler, laboratory findings.

Results and discussion. The results of the studies conducted indicate that the main risk factors of development of preterm delivery (in 82,9% in the term to 32 weeks) in multipara women are: infectious diseases of the urinary tract (26,4%), bacterial vaginosis (51,7%), comorbid extragenital pathology (68,6%), menstrual function disorders (48,9%), early

beginning of the sexual life (89,4%), lack of contraceptive methods (94,7%).

It should be noted that pregnancy and labour in multipara women occur with a high frequency of different complications: threat of miscarriage in early terms (61%; p<0,05), threat of preterm delivery (63,4%, p<0,05), bacterial vaginosis (48,6%), gestation anemia (56,7%), ICF (52,3%), placental dysfunction (38,6%), fetal hypoxia (57,6%), developmental retardation of the fetus (31,5%), premature rupture of the amniotic sac (44,3%), preterm delivery (27,8%), causing a high percentage of cesarean sections (27,6%).

Perinatal consequences in multipara women are characterized by rather high percentage of asphyxia of a newborn (31,2%) and posthypoxic encephalopathy (29,8%), causing a high frequency of perinatal loss.

The functional state of the FPC in multipara women is characterized by hormonal disorders: increased cortisone level (p<0,01), decreased progesterone content (p< 0,05), placental lactogen (p< 0,05) and estriol (p<0,01), increased placental index (PI) in the uterine (p<0,05) and cerebral arteries (p<0,05), reliable increase of circulation flow in the venous duct (p<0,05), and reliable decrease of placental coefficient (p<0,05).

Assessment of microbiological status in multipara women determined dysbiotic changes, especially before delivery in the form of detection of the third and fourth cleanliness of the vagina (26,7%), increase of non-specific vaginitis (21,8%), and bacterial vaginosis (56,8%).

Conclusions. The efficacy of the suggested methods to prevent miscarriage is in reliable and considerable decrease of perinatal complications occurring during pregnancy of multipara women and in particular: gestation anemia (in 2,5 times), threat of preterm delivery (in 4,6 times), placental dysfunction (in 2,6 times), disorders of vaginal microbiocenosis (in 2,2 times), preterm delivery (in 2,8 times), premature rupture of the amniotic sac (in 2,6 times), developmental retardation of the fetus (in 3,2 times), fetal distress (in 3,6 times), and abdominal delivery (in 2,9 times).

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