



Reactivity of Rozhinets in Mild Iron Deficiency Anemia

Karabaeva M. A.¹, Khudoyarova D. R.², Karabaev A. G.³

¹ Doctoral student of the Department of Obstetrics and Gynecology of the Samarkand State Medical University

² Head of the Department of Obstetrics and Gynecology of the Samarkand State Medical University, MD, Associate Professor

³ Head of the Department of Physiology of the Samarkand State Medical University, MD, Associate Professor

Abstract: The article is devoted to an urgent problem – violations of labor activity of women in labor, against the background of changes in vegetative reactivity with iron deficiency anemia of moderate severity. The object of the study was 30 women in labor with iron deficiency anemia of moderate severity. At the same time, in women in labor with a moderate predominance in the reactivity of the autonomic nervous system of the tone of the sympathetic nervous system, the reserve force of adaptation decreases to 22.2%, that is, 77.8% of the reserve power, and women in labor with pronounced sympathetic reactivity: the reserve force of adaptation decreases to 24.6% and has 75.4% of the reserve. In women in labor with a predominance of parasympathetic reactivity, the reserve force of adaptation is increased up to 26% and has 126% reserve capacity.

Keywords: Iron deficiency anemia, vegetative reactivity, women in labor, labor activity

The main trend of modern obstetrics is the focus on the most careful management of pregnancy and the completion of the stage of labor. It is known that the peculiarities of the course of labor largely determine perinatal outcomes for the mother and fetus. According to the World Health Organization (WHO), every day about 800 women and almost 8,000 newborn children die from complications during pregnancy, childbirth and in the immediate postpartum period [15]. Pathology of labor activity occurs due to a combination of various reasons underlying the regulatory system, that is, the reactivity of the autonomic nervous system [13,14]. The condition of normal childbirth is the normal contractile activity of the uterus. Normally, when the longitudinal muscle bundles in the layers of the myometrium contract, the circular bundles relax and vice versa, when the circular muscles contract, the longitudinal ones relax. The amplitude of contractions of the circular muscles is significantly lower than the longitudinal ones [11]. The duration of uterine contractions in childbirth averages 60-90 seconds. The strength of contraction depends on the basal tone and is the difference between the tone and the peak of contraction. Basal tone is the lowest tension of the myometrium, between two contractions [10]. Obstetric practice knows that the wave of contraction begins in the area of one of the tubal corners of the uterus and spreads with decreasing force to the lower segment and cervix. During normal labor activity of women in labor, the peaks of contraction of individual segments and layers of the uterus exactly coincide in time, this is achieved by reducing the duration, amplitude and strength of contraction of muscle fibers as they move away from the rhythm driver. With coordinated uterine contraction, the peaks of contractions, as well as periods of relaxation, are synchronous in

different parts of the uterus [9, 5]. Painful contractions are a consequence of hypoxia at the cellular level, myometrial acidosis, due to spastic contraction of the circular muscle bundles, inconsistency of the processes of contraction of the longitudinal muscles and excessively strong stretching of the circular muscles, compression of the nerve plexuses of the parametrium and perineum.

We know that anomalies of labor activity include: pathological preliminary period, weakness of labor activity, excessively strong labor activity, discoordinated labor activity, discoordination, hypertonus of the lower segment of the uterus. Such a reaction of uterine activity is observed in various extragenital pathologies [3,4].

One of the main factors affecting the duration of the labor act are anomalies of labor activity, which are characterized by the inefficiency of the labor process, changes in the course of the physiology of labor. Anomalies of the birth act account for 10 to 20% of complications, they occupy the third place in the structure of indications for cesarean section and are one of the causes of perinatal and maternal complications [1]. So, currently, violations of labor activity of women in labor with iron deficiency anemia of varying degrees have not been sufficiently studied and remains an urgent problem.

The purpose of the study. To identify violations of labor activity in moderate iron deficiency anemia, depending on the reactivity of the autonomous nervous system of the body.

Material and methods of research. The material was studied in 30 women in labor with mild iron deficiency anemia in the clinic No. 1 of the Samarkand Medical University (Samarkand, Res. Uzbekistan). At the same time, a general blood test, the reactivity of the autonomic nervous system, as well as disorders of labor activity were studied in each of the women in labor.

The results obtained and their discussions. In the study of women in labor with mild iron deficiency anemia: the erythrocyte content averaged $3.6 \pm 0.03 \times 10^{12}$ liters ($P < 0.01$), hemoglobin 94.1 ± 0.6 g/l ($P < 0.001$), and the color index was 0.78 ± 0.005 ($P < 0.001$).

Among these women in labor, moderate sympathetic reactivity of 70%, pronounced sympathetic reactivity of 17%, moderate parasympathetic reactivity of 13% were identified.

In women in labor with moderate sympathetic reactivity, the pulse rate was 81.8 ± 0.9 times/min., ($P < 0.01$ more than normal indicators of women in labor), and the respiratory rate was reduced and amounted to 16.1 ± 0.3 ra./min. ($P < 0.01$). When studying the reactivity of the autonomic nervous system with the help of heart rate variability, an increase was revealed, compared with the control group; the amplitude of the mod - AMO up to 78, $\pm 1.3\%$ ($P < 0.001$), an increase in the voltage index of regulatory systems, up to 236.0 ± 21.3 units. ($P < 0.05$), a decrease in the total power of the spectrum of wave oscillations Total to 1439.0 ± 56.9 ms² ($P < 0.001$), neurohumoral activity VLF to 559.8 ± 14 , ms² ($P < 0.001$), a slight increase in the sympathetic nervous system index LF to 843.6 ± 32.9 ms², a slight decrease in the parasympathetic nervous system index HF up to 239.9 ± 10.7 ms², a slight increase in the sympatho-vagal index LF/HF to 3.6 ± 0.1 ($P > 0.05$). At the same time, the total power of spectral analysis is reduced to 22.2% ($P < 0.001$). The duration of labor in this case was 13.4 ± 0.5 hours ($P > 0.05$).

In women in labor with pronounced sympathetic reactivity, the pulse rate was 98.1 ± 0.9 times/min. ($P < 0.001$ more than normal indicators of women in labor), and the respiratory rate was slightly reduced, and amounted to 16.8 ± 0.9 ra./min. ($P < 0.05$). When studying the reactivity of the autonomic nervous system with the help of heart rate variability, an increase in comparison with the control group was revealed; the amplitude of the mod - AMO to $91.6 \pm 1.6\%$ ($P < 0.001$), an increase in the voltage index of regulatory systems- In to 436.8 ± 17.0 units. ($P < 0.001$), a decrease in the total power of the spectrum of wave oscillations Total to $1395.2 \pm 23.3.5$ ms² ($P < 0.001$), neurohumoral activity VLF to 348.8 ± 5.8 ms² ($P < 0.001$), an increase in the sympathetic nervous system index LF to 946.2 ± 16.1 ms² ($P < 0.05$), a significant decrease in the parasympathetic nervous system index HF systems up to 100.2 ± 3.7 ms² ($P < 0.001$), a significant increase in the sympatho-vagal index LF/HF to 9.4 ± 0.4 ($P > 0.05$). At the same time, the total power of spectral analysis was reduced to 24.6% ($P < 0.001$), where the duration of labor was 3.9 ± 0.4 hours ($P < 0.001$).

In women in labor with moderate parasympathetic reactivity, the pulse rate was 83.1 ± 2.5 times./min. ($P > 0.05$) slightly higher than normal indicators of women in labor, and the respiratory rate was increased to 19.0 ± 0.5 ra./min. ($P < 0.05$). When studying the reactivity of the autonomic nervous system with the help of heart rate variability, a slight decrease in the amplitude of the mod - AMO to $91.6 \pm 1.6\%$ was revealed compared with the control group ($P > 0.05$), a decrease in the voltage index of regulatory systems- In to 159.1 ± 9.1 units. ($P > 0.05$), an increase in the total power of the Total wave spectrum to 2330.5 ± 147.3 ms² ($P < 0.05$), neurohumoral activity VLF to 1209.5 ± 83.2 ms² ($P < 0.01$), a significant decrease in the sympathetic nervous system index LF to 505.5 ± 39.8 ms² ($P > 0.05$), a significant increase in the parasympathetic nervous system HF to 615.5 ± 40.1 ms² ($P < 0.001$), a significant decrease in the sympatho-vagal index LF/HF to 0.8 ± 0.02 ($P > 0.05$). At the same time, the total power of spectral analysis was increased to 26.0% ($P < 0.001$). In this group, the duration of labor of women in labor was 22.3 ± 1.0 hours ($P < 0.001$).

If we interpret the data obtained with the data of the authors [12,6,7,8,3,4], the overall reactivity of women in labor with a moderate predominance in the reactivity of the autonomic nervous system, the tone of the sympathetic nervous system, the reserve force of adaptation decreases to 22.2%, that is, 77.8% of the reserve capacity of women in labor will be able to provide normal labor activity, within 13.4 hours. In women in labor with pronounced sympathetic reactivity, the reserve force of adaptation decreases to 24.6% and has 75.4% of the reserve power of women in labor, providing rapid labor activity, within 3.9 hours with postpartum complications. In women in labor, with a pronounced predominance of parasympathetic reactivity, the reserve force of adaptation has been increased to 26% and has 126% of the reserve capacity of women in labor, will be able to provide long-term labor activity within 22.3 hours with low postpartum complications in the body of women in labor and large complications from the newborn. Our data are consistent with the data of scientists[1,2].

Based on the data obtained, the following conclusions can be drawn

1. Women in labor with a moderate predominance in the reactivity of the autonomic nervous system of the tone of the sympathetic nervous system, the reserve force of adaptation decreases to 22.2%, that is, 77.8% of the reserve power.
2. In women in labor with pronounced sympathetic reactivity, the reserve force of adaptation decreases to 24.6% and has 75.4% of the reserve power
3. In women in labor with a predominance of parasympathetic reactivity, the reserve force of adaptation has been increased to 26% and has 126% of the reserve power

Literature.

1. Aylamazyan E.K. Emergency care in obstetrics: a guide for doctors pererab. and additional / E.K. Aylamazyan. — M.: GEOTAR-Media, 2015.
2. Baev O.R., Rubtsova S.V., Vasilchenko O.N., Rumyantseva V.P., Alexandrova N.V. Duration of "normal" childbirth in modern conditions. // Magazine. Obstetrics and Gynecology. 2012.-No. 1.-pp.49-54.
3. Zhelezova M.E., Zefirova T.P., Yagovkina N.E., Nyukhnin M.A., Chistyakova N.Yu. The effect of the duration of labor on perinatal outcomes //Journal. Practical medicine. 2017.-№7 (108).-Pp.12-17.
4. Zhelezova M.E., Maltseva L.I., Tzefirova.P., Tsyplakov D.E. Features of the course and outcomes of rapid and rapid childbirth in women.//Journal. Bulletin of Modern Clinical Medicine 2016 volume 9, vol. No. 2 pp.133-134.
5. Karabaeva M.A. Khudoyarova D. R. Karabaev A.G. Vegetative reactivity of pregnant women with severe iron deficiency anemia // Journal New Day in medicine 2021;3(35) pp.100-104.
6. Karemaker J. M. Counterpoint: respiratory sinus arrhythmia is caused by a baroreflexive mechanism. J Applpsychol (2009) 106:1742-3. doi: 10.1152/jappphysiol.91107.2008a.

7. Kuusela T. Methodological aspects of the analysis of heart rate variability. In: Kamat M.V., Watanabe M.A., Upton A.M., editors. Analysis of heart rate variability (HRV) signals. Bock-Raton, Lorrída: CRC Press (2013). pp. 9-42.
8. McCraty R., Shaffer F. Heart rate variability: new views on physiological mechanisms, assessment of the ability to self-regulation and health risk. *Global Adv Health Med* (2015) 4:46-61. doi: 10.7453/gahmj.2014.073
9. Podtetenev, A.D. Forecasting, prevention and treatment of weakness and discoordination of labor activity. autoref. dis. ... Doctor of Medical Sciences / A.D. Podtetenev. - St. Petersburg, 2003. - 32s.
10. Savitsky A.G. The structure of labor anomalies in modern obstetrics: clinical and statistical aspects // *Journal of Obstetrics and Women's Diseases*. - 2005. — Vol. 54, No. 2. — pp. 17-22.
11. Sidorova I.S. Physiology and pathology of labor activity. — M.: MEDpress, 2000. — 320 p.
12. Taylor J.A., Carr D.L., Myers K. V., Ekbergg D. L. The mechanisms underlying the very rare colonization of the PP interval in landeys. *Circumcision* (1998) 98:547-55. doi: 10.1161/01.CIR.98.6.547
13. Karabaev A.G. (2020). The relationship between the reactivity of the autonomic nervous system and the morphofunctional activity of the basophilic cells of the adenohypophysis in the post-resuscitation period. // *International Scientific Journal "Science and Peace"*, 3 (79). 55-62.
14. Karabaev A. G., R. I. Isroilov. (2020). Morphofunctional changes in the basophilic cells of the denohypophysis in post-resuscitation disease // *Journal of Achievements of Medicine and Medical research*. 32 (8). 130-135.
15. URL: www.who.int