



N. S. Lutsenko, I. S. Sokolovska

The definition of harmonious development of fetus by ultrasound method

Public institution «Zaporizhzhia Medical Academy of Postgraduate Education Ministry of Health of Ukraine»

Key words: Fetus,
Breech Presentation,
Ultrasonography Investigation.

It is a very important problem of determining the harmonious development of the fetus during determining the tactics of delivery breech presentation.

The aim of the study was to determine the ratio of the harmonious development of the fetus at different gestational periods.

Methods and results. For all study groups determined biparietal, fronto-occipital diameter, head circumference, abdominal circumference, shoulder length, thigh length. For all investigated values of the ratio it was uneven and deviates from the standard distribution.

Conclusion. Some pregnant women who have not deviations from the standard deviation, or have only one indicator increases with gestational age.

Визначення гармонійності розвитку плода за допомогою ультразвукового методу дослідження

Н. С. Луценко, І. С. Соколовська

При визначенні тактики пологорозродження плодів в сідничному передлежанні дуже важливим питанням залишається визначення гармонійності розвитку плода. Метою дослідження є визначення співвідношення гармонійності розвитку плода при різних гестаційних періодах. Для всіх груп, що досліджували, визначали біпаріетальний розмір, лобно-потиличний розмір, окружність голівки, коло живота, довжину плеча, стегна. Для всіх вивчених значень співвідношення виявилось нерівномірним і мало відхилення від нормативного розподілу. Частка вагітних, які не мають відхилення від стандарту або мають відхилення лише за одним показником, істотно збільшується зі зростанням терміну вагітності.

Ключові слова: плід, тазове передлежання, ультразвукове обстеження.

Актуальні питання фармацевтичної і медичної науки та практики. – 2015. – № 2 (18). – С. 55–56

Определение гармоничности развития плода при помощи ультразвукового метода

Н. С. Луценко, И. С. Соколовская

При определении тактики родоразрешения плодов в ягодичном предлежании очень важной остается проблема определения гармоничности развития плода. Целью исследования явилось определение соотношения гармоничности развития плода в разные гестационные сроки. Для всех исследуемых групп определялся бипаритетальный, лобно-затылочный размер, окружность головки, окружность живота, длина плеча, бедра. Для всех исследуемых значений соотношение явилось неравномерным и отклонялось от нормативного распределения. Часть беременных, у которых нет отклонений от стандарта или имеются отклонения только по одному показателю, увеличивается с увеличением срока беременности.

Ключевые слова: плод, тазовое предлежание, ультразвуковое обследование.

Актуальные вопросы фармацевтической и медицинской науки и практики. – 2015. – № 2 (18). – С. 55–56

It is known that the problem of delivery of women with breech presentation is still not fully resolved. This is due to the high percentage of complications in newborns in the form of traumatic injury of the shoulder girdle [2,3]. But until now, the main criterion is the estimated weight of the fetus, which should not be more than 3700 gram [1,4,5]. However, we know the large mass of the fetus can be in the presence of small anatomical circles and is associated with long bones, while the low weight can be observed in a large head circumference, which in relation to the size of the pelvic pregnant woman is unacceptable for natural childbirth. It forces to conduct a study aimed at determining whether the mass of the fetus to its anatomical size and distribute all the fruit of the harmonious development and inharmonious developed

To address the issue of the method of delivery of the fetus in the breech position, the main criterion is to define the expected fetal weight. That possibility of delivery is

considered only one isolated criterion. Various issues two very important issues or accurate enough can be estimated weight of the fetus, and whether it is possible to navigate when choosing delivery tactics by only one criterion [4,5].

Aim of the study was to determine corresponds harmonious development of the fetus at various gestational age.

Methods and results

It have been determined the size of the fetus - biparietal, fronto-occipital, head circle, circle abdomen, thigh length, arm length for all these groups and have been measured circle chest for groups of gestation from 32 to 35 weeks.

It has been calculated by the size of the gestational age of the fetus, using the formula $AUA = (GA_1 + GA_2 + GA_3 + GA_4) / 4$, where GA_1, GA_2, GA_3, GA_4 , respectively, for the evaluation of the pregnancy biparietal size, around the head, around the abdomen and thigh length in accordance to their values.

Table 1
The share of persons with deviations from standards on observable indicators, %

the number of departures	32_35	35_38	38_41
0 – 1	86,5	90,3	94,1
2	9,6	6,1	5,9
3	1,9	2,4	0,0
4	1,9	1,2	0,0

Data in the table shows that the some of pregnant women in which the size of the fetus for all indexes meet the standards increased, and the proportion of pregnant women in which the size of the fetus does not meet the standards for two or more indicators decreases with increasing gestational age.

Overall, it has been empirically determined percentile distribution meet regulatory value. In all cases different from last no more than 5%. The number of values that differ by more than 3% is about 20%, taking into account the small-scale empirical samples can be considered acceptable value. For these three values belonging to groups 32–35 and 38–41 weeks and 5 values – the group of 35–38 weeks. The table also estimates fetal weight percentile calculated by the Hedlok formula.

Certain groups have showed a significant increase in weight with increasing age of the fetus. But the spread of distribution varies ambiguous - it is the largest group of 35–38 weeks and the smallest – group 32–35 weeks. The relative standard deviation was determined by dividing its value by the average value of fetal weight for that group. In the second case, all the observations were divided into

groups of one week increments. Medium term pregnancy group was defined as the weighted arithmetic mean of all observations of the formula:

$$T = \sum_i n_i t_i / \sum_i n_i$$

where n_i – number of observations in the group, and t_i – for the pregnancy and the first observation.

The absolute value of the standard deviation increases to about 38 weeks of pregnancy (along with increasing fetal weight), and then begins to decrease. The relative standard deviation majestic mass of up to 38 weeks is more or less constant. Some growth is observed only for a group of 37–38 weeks. But it can be caused by random factors. But after 38 weeks relative values of standard deviation are also beginning to decline significantly.

Conclusions

1. Distribution is uneven and substantially deviates from the normal distribution, in many cases the separation into two or three subgroups with different average values of indicators for all the studied parameters their values. This may be due to the formation of certain characteristic features of individual constitutional types of children.

2. The proportion of pregnant women with absence of deviations from the standards for the studied parameters or deviations are only one indicator significantly increases with gestational age. Instead, the proportion of those who reject the higher number of parameters is reduced. It gives reason to assume that the presence of deviations from standards is one of the factors that can lead to premature birth.

References

1. Fawole AO, Sotiloye OS, Oladimeji AO, Alao MO, Hunyinbo KI, Sadoh EA, Otolorin EO. Antenatal cardiotocography: experience in a Nigerian tertiary hospital. *Nigerian Postgraduate Medical Journal* 2008;15:19-23.
2. Grivell RM, Alfrevic Z, Gyte GML, Devane D. Antenatal cardiotocography for fetal assessment. *Cochrane Database of Systematic Reviews* 2010; Issue 1. Art. No.: CD007863; DOI: 10.1002/14651858.CD007863.pub2.
3. Cohen, W. R. and Friedman, E. A. (2011) Managing Breech Presentation and Transverse Lie, in *Labor and Delivery Care: A Practical Guide*, Wiley-Blackwell, Oxford, UK. doi: 10.1002/9781119971566.ch8
4. World Health Organization. Evaluating the quality of care for severe pregnancy complications: The WHO near-miss approach for maternal health. Geneva: World Health Organization; 2011. http://whqlibdoc.who.int/publications/2011/9789241502221_eng.pdf.
5. Giusti M., Bertolotti G.C., Nappi R.E., Fignon A., Zara C External cephalic version as a possible treatment of breech presentation. *Minerva Ginecol.* - 2000. v. 52. - n.6. - p.221-227.

Information about authors:

Lutsenko N. S., Dr.hab., Head of Department of Obstetrics and Gynecology Public institution «Zaporizhzhia Medical Academy of Postgraduate Education Ministry of Health of Ukraine».

Sokolovska I. S., Teaching Assistant of Department of Obstetrics and Gynecology Public institution «Zaporizhzhia Medical Academy of Postgraduate Education Ministry of Health of Ukraine», E-mail: irinasokolovskaya@list.ru.

Відомості про авторів:

Луценко Н. С., д. мед. н., професор, зав. каф. акушерства та гінекології, ДЗ «Запорізька медична академія післядипломної освіти МОЗ України».

Соколовська І. С., асистент каф. акушерства та гінекології, ДЗ «Запорізька медична академія післядипломної освіти МОЗ України», E-mail: irinasokolovskaya@list.ru.

Сведения об авторах:

Луценко Н. С., д. мед. н., профессор, зав. каф. акушерства и гинекологии, ГУ «Запорожская медицинская академия последипломного образования МЗ Украины».

Соколовская И. С., ассистент каф. акушерства и гинекологии, ГУ «Запорожская медицинская академия последипломного образования МЗ Украины», E-mail: irinasokolovskaya@list.ru.

Надійшла в редакцію 15.06.2015 р.