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Ultrasonic monitoring of the mammary glands status in women with benign mammary dysplasia during the first year after childbirth

G.E. Yaremko, E.N. Dzuba

SI "Institute of Pediatrics, Obstetrics and Gynecology of the AMSc of Ukraine"

Searching the ways to reduce the breast cancer frequency the problem of fibrocystic mastopathy attracts the increasing doctors ' attention. The study of the demographic aspects of breast diseases epidemiology indicates that reproductive health, which is characterized by the reduction in the number of births, the child late birth, the large number of abortions, the shortening of breast-feeding period determines the growth of mastopathy morbidity rate.

Breast cancer ranks first among death causes from cancer among women of working age, so the problem of breast cancer prevention is of crucial importance. Any breast pathology may contribute to the development of this organ cancer pathology. First of all it concerns breast mastopathy (dishormonal dysplasia). Among the measures aimed at early diagnosis of breast oncopathology the timely benign tumors diagnostics is very important. According to histological examination of the surgical material, breast cancer is combined with benign dysplasia in 46 % of cases [4, 5].

Diffuse fibrocystic changes in the mammary gland are important not only because of the significant frequency of this pathology, but also and mainly due to the fact that they are the background of breast cancer development. According to some authors, the malignancy at fibrocystic mastopathy of nonproliferative forms is 0,9 %, of moderate proliferation – 2 %, of expressed proliferation – 31 % [8].

The postpartum period is the least studied in women with fibrocystic breast disease. At the same time, the propaganda of each pregnancy termination with childbirth and of the breastfeeding is crucial in prevention and treatment of mammary gland diseases, as the process of breast cells and tissues differentiation, which occur at full-term pregnancy and subsequent lactation, increase breast cells resistance to carcinogenic impact [5].

Protective factors against the development of benign mammary dysplasia include childbirth at the age of 20-25 years, breast-feeding and number of births (more than two) with full lactation. Risk decrease of breast cancer development is 7 % on every birth (excluding the lactation effect). The risk of breast cancer is reduced for 5 % at each additional month of lactation. With the total lactation period of 24 months and longer, the protective effect is observed even after 30 years after the last lactation [7]. The series of studies demonstrated that in women with breastfeeding for 6 months the risk of breast cancer development is for 7-12 % lower than in not feeding women [5].

The investigations carried out in 2010-2012, suggest that in 85 % of women with breast benign dysplasia the prolonged lactation contributed to the regression of mammary gland diseases [1].

Lactation is the natural continuation of the pregnancy. In the lactation mechanism: mammogenesis is the breast development, lactogenesis – the beginning of milk secretion after childbirth and ectopias – lactation function support. The process of milk excretion – lactokinesis – is closely related to ectopias. The synchronicity of these processes is provided by neuroendocrine way.

Generally, breastfeeding for 4-6 months promotes not only the best postpartum course, but also the prevention of mastopathies, breast cancer, uterus and ovaries cancer in the future.

The intensity of the sucking reflex in a child is the most pronounced in the 1st hour after birth, therefore the attachment of the baby to the breast at this period has positive effect on the lactation formation. There are a number of factors related to the health of pregnant women and new mothers, which may pose certain obstacles to successful breastfeeding. The basis of lactation disorders in these women, including hypogalactia, is the combination of risk factors at the stage of mammogenesis (placental dysfunction) and lactogenesis (late attachment of the baby to the breast) [3].

The results of 2010-2011 research concerning the formation of lactogenesis in women with fibrocystic breast disease demonstrate that only 58 % of them breast-fed up to 6 months, and 16 % - up to 2 months. Short lactation period in 30 % of women was associated with placental dysfunction during pregnancy, pathological breast engorgement, pain, inflammatory mastitis development resulted in further cessation of lactation [1].

In this regard, we have developed the complex of organizational and therapeutic preventive measures, which contributed to the improvement of lactation quality and to its extension up to 9-12 months, to normalization of parturients' hormonal homeostasis and microecology of the female body that had a positive impact on the mammary glands' state [2].

Purpose – to study the ultrasound criteria of lactation impact on the mammary glands' state in women with fibrocystic breast disease during the first year after delivery on the background of the developed therapeutic preventive complex for lactating women, aimed at lactation quality improvement and its prolongation.

Material and Methods

Ultrasound (US) breast investigation was performed with the ultrasonic device G40 "Siemens - 30314 (Japan).

The patient was investigated in spine position in B-mode with electronic probe 7.5-15 MHz in real-time. The most common classification of N.I. Rozhkova was used for mammary gland assessment [6].

Results

In the first year after delivery (3, 6, 9 and 12 months) breast US was performed in 40 women with regard to the nature and duration of lactation. By ultrasonic characteristics the surveyed women demonstrated diffuse fibrocystic breast disease with prevalence of cystic component and nodal mastopathy. The first group consisted of 20 women who received the developed therapeutic and preventive complex of measures (main group). The second group consisted of 20 women (comparison group) with traditional postpartum period as to lactation support. 10 women formed the control group without breast disease who breast-fed for 12 months.

All groups of women were representative according to age and skill composition, previous diseases, gynecological history data.

The analysis of the postpartum period in women of the main group revealed that in the delivery room 64 % of newborns were attached to the breast, within 1 hour – 8 %, on the second day – 28 %. The duration of lactation was the following: up to 6 months 36 % of women breast fed, up to 9 months – 21 %, up to 12 months – 43 %.

As to the thematic women from the comparison group, then immediately after delivery 42 % of newborns were attached to the breast, within 1 hour – 8%, on the second day – 50 %. The duration of lactation in these women was the following: up to 3 months 42 % of women breast fed, up to 6 months – 50%, up to 9 months – 8 %.

Thus, the early attachment of newborns to the breast had a positive impact on the breast-feeding quality, milk quantity and lactation duration in 64 % of women of the main group, namely 43 % of women received the proposed treatment and preventive complex fed babies up to 12 months and more.

It should be noted that breastfeeding had a positive effect on the symptoms of the underlying disease in both groups of patients. However, regression of pathological changes in the mammary glands, according to US results, was more significant in the group of women treated with the proposed preventive measures. So, US demonstrated that in the main group of women prolonged breastfeeding contributed to the regression of breast disease in 85,7 % of patients, i.e. in 42,7 % there were no signs of fibrocystic breast disease, in 43 % - isolated volume lesions, whereas during pregnancy they were multiple.

Among women with prolonged lactation without application of the proposed complex, the signs of fibrocystic breast disease were not detected in 16.7 % of patients (lactation lasted up to 7 months). The decrease in the number of cystic formations in the breast was fixed in 25 % of parturients. 50 % of women who did not receive recommended therapetic preventive measures had hypogalactia and lactation in them was up to 2-3 months with preservation of all signs of fibrocystic breast disease.

Conclusions

Thus, according to mammary glands US data, in women with fibrocystic breast disease during the first year after childbirth, pregnancy, childbirth and breastfeeding had a positive effect on the state of the mammary glands The proposed complex of organizational, therapeutic and preventive measures should be recommended for widespread implemen-

tation, especially for patients with fibrocystic breast disease, as the application of this method contributes not only to the lactation prolongation, but as well to the prevention of proliferative processes progression in the mammary glands.

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ULTRASONIC MONITORING OF THE MAMMARY GLANDS STATUS IN WOMEN WITH BENIGN MAMMARY DYSPLASIA DURING THE FIRST YEAR AFTER CHILDBIRTH

G.E. Yaremko, E.N. Dzuba

The purpose was to study the ultrasonic criteria of the influence of lactation on the state of the mammary glands in women with fibrocystic breast disease during the first year after childbirth on the background of the developed therapeutic preventive complex for lactating women directed to improve the quality of lactation and its prolongation.

Pregnancy, childbirth and breastfeeding had a positive impact on the state of the mammary glands according to ultrasonography of breast in women with benign mammary dysplasia during the first year after childbirth.

Proposed complex of organizational therapeutic and preventive arrangements should be recommended for widespread introduction, especially for women with fibrocystic breast disease, as the application of this complex has the positive effect on the lactation prolongation and on the prevention of proliferative processes in the mammary glands progression.

Key words: ultrasonography, benign mammary dysplasia, lactation, prevention, treatment.

УЛЬТРАЗВУКОВИЙ МОНІТОРИНГ СТАНУ МОЛОЧНИХ ЗАЛОЗ У ЖІНОК З ДОБРОЯКІСНИМИ ДИСПЛАЗІЯМИ ЗАЛОЗ ВПРОДОВЖ ПЕРШОГО РОКУ ПІСЛЯ ПОЛОГІВ

Г.Є. Яремко, О.М. Дзюба

Мета – вивчення ультразвукових критеріїв впливу лактації на стан молочних залоз у жінок з фіброзно-кістозною хворобою молочних залоз впродовж першого року після пологів на тлі розробленого комплексу лікувально-профілактичних заходів для жінок, що годують, направленого на поліпшення якості лактації та її пролонгацію.

За даними ультразвукового дослідження молочних залоз у жінок з фіброзно-кістозною хворобою молочних залоз впродовж першого року після пологів вагітність, пологи та грудне вигодовування позитивно вплинули на стан молочних залоз. Запропонований комплекс організаційних та лікувально-профілактичних заходів слід рекомендувати до широкого впровадження, особливо хворим на фіброзно-кістозну хворобу молочних залоз, оскільки його застосування сприяє як пролонгуванню самої лактації, так і профілактиці прогресування проліферативних процесів у молочних залозах.

Ключові слова: ультразвукове дослідження, доброякісна дисплазія молочних залоз, лактація, профілактика, лікування.

УЛЬТРАЗВУКОВОЙ МОНИТОРИНГ СОСТОЯНИЯ МОЛОЧНЫХ ЖЕЛЕЗ У ЖЕНЩИН С ДОБРОКАЧЕСТВЕННЫМИ ДИСПЛАЗИЯМИ ЖЕЛЕЗ В ТЕЧЕНИЕ ПЕРВОГО ГОДА ПОСЛЕ РОДОВ

Г.Е. Яремко, Е.Н. Дзюба

Цель – изучение ультразвуковых критериев влияния лактации на состояние молочных желез у женщин с фиброзно-кистозным заболеванием молочных желез в течение первого года после родов на фоне разработанного комплекса лечебно-профилактических мероприятий для кормящих женщин, направленных на улучшение качества лактации и ее пролонгирование. По данным ультразвукового исследования молочных желез у женщин с доброкачественными дисплазиями молочных желез в течение первого года после родов беременность, роды и грудное вскармливание положительно повлияли на состояние молочных желез. Предложенный комплекс организационных и лечебно-профилактических мероприятий следует рекомендовать для широкого внедрения, особенно женщинам с фиброзно-кистозным заболеванием молочных желез, поскольку его применение благоприятно воздействует как на пролонгирование самой лактации, так и на профилактику прогрессирования пролиферативных процессов в молочных железах.

Ключевые слова: ультразвуковое исследование, доброкачественная дисплазия молочных желез, лактация, профилактика, лечение.

Патенти

МАГНИТНО-РЕЗОНАНСНОЕ И РЕНТГЕНОВСКОЕ КОНТРАСТНОЕ СРЕДСТВО И СПОСОБ ЕГО ПОЛУЧЕНИЯ
№ 2497546, Акопджанов А.Г., Науменко В.Ю., Панов В.О., Шимановский Н.Л.

Изобретение относится к контрастному средству для магнитно-резонансной и рентгеновской диагностики для проведения магнитно-резонансной томографии (МРТ) и рентгеновской компьютерной томографии (РКТ). Указанное средство содержит сложный оксид железа в концентрации 600 мг/мл, 2,4 мг/л лимонной кислоты для стабилизации размера частиц сложного оксида железа в диапазоне 5-10 нм, 140 мг/мл цитрата натрия для стабилизации структуры контрастного средства, полиэтиленгликоль в концентрации 160 г/л и 460 мг/мл воды для инъекций. Изобретение также относится к способу получения указанного выше контрастного средства, при котором смешивают соли железа, добавляют гидрат аммония и лимонную кислоту. После этого вводят полиэтиленгликоль и добавляют разбавленный в воде цитрат натрия при интенсивном перемешивании, охлаждают и фильтруют нерастворенный цитрат натрия. Группа заявленных изобретений обеспечивает повышение эффективности диагностических исследований за счет визуализации по времени релаксации, а также обеспечивает уменьшение концентрации вводимого в организм контрастного средства. 2 н. и 1 з.п. ф-лы, 1 ил., 3 пр.

СПОСОБ ДИАГНОСТИКИ ОНКОЛОГИЧЕСКИХ ЗАБОЛЕВАНИЙ В ЭКСПЕРИМЕНТЕ
№ 2343828, Брусенцова Т.Н., Куприянов Д.А., Пирогов Ю.А., Дубина А.И., Шумских М.Н.

Изобретение относится к экспериментальной медицине и предназначено для диагностики онкологических заболеваний в эксперименте. Последовательно внутривенно вводят 1-1000 мкл 1-10% золя декстранферрита в виде наночастиц диаметром 20-900 нм в полиглюкине из расчета не более 2,92 мг Fe/кг веса животного и магневист в дозе 3-12 мкл. Проводят магнитно-резонансную томографию тела животного при Т 1, Т2 взвешенной градиент-эхо последовательности. На основании результатов визуального анализа полученных изображений диагностируют наличие опухолей, метастазов и границ инвазии опухолевых клеток в здоровые ткани. Декстранферрит вводят за 20-40 часов, а магневист за 4-12 минут до проведения магнитно-резонансной томографии. Предлагаемый способ позволяет увеличить яркость и контраст изображений, а также длительное время поддерживать контраст магнитно-резонансного изображения органов и тканей животного. 3 табл., 4 ил.