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**MODERN APPROACH TO DIAGNOSIS AND TREATMENT  
JUVENILE DYSMONORRHEA IN ADOLESCENT GIRLS**

*Resume:* Dysmenorrhea is one of the most common gynecological diseases among adolescents. Moreover, the widespread introduction of the latest achievements of drug and non-drug therapy did not cause the expected decrease in the frequency of dysmenorrhea in girls. Perhaps this is due to the lack of a clearly defined differentiated approach to the treatment of these patients and the fact that most specialists under the term "dysmenorrhea" understand only the presence of painful menstruation without taking into account the entire wide range of neurovegetative, metabolic-endocrine, mental and emotional deviations of the menstruation process.

The obtained data, which highlighted the problem of dysmenorrhea in girls, showed the importance of a differentiated approach to diagnosis and to the appointment of non-hormonal and various hormonal drugs to correct various manifestations of dysmenorrhea in girls.

*Key words:* juvenile dysmenorrhea, adolescence.

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**СОВРЕМЕННЫЙ ПОДХОД К ДИАГНОСТИКЕ И ЛЕЧЕНИЮ  
ЮВИНИЛЬНОЙ ДИСМОНОРЕИ У ДЕВУШЕК ПОДРОСКОВ**

*Резюме:* Дисменорея является одним из самых распространенных гинекологических заболеваний среди подростков. Более того, широкое внедрение последних достижений медикаментозной и немедикаментозной

терапии не вызвало ожидаемого снижения частоты дисменореи у девушек. Возможно, это обусловлено отсутствием четко очерченного дифференцированного подхода к лечению данных больных и тем, что большинство специалистов под термином "дисменорея" понимают только наличие болезненных менструаций без учета всего широкого спектра нейровегетативных, обменно-эндокринных, психических и эмоциональных отклонений процесса менструации.

Полученные данные, осветившие проблему дисменореи у девушек, показали значимость дифференцированного подхода к диагностике и к назначению негормональных и различных гормональных препаратов для коррекции разнообразных проявлений дисменореи у девушек.

**Ключевые слова:** ювенильная дисменорея, подростковый возраст.

**Introduction.** Adolescence is a period of transition from childhood to adulthood, characterized by a jump in physical, physiological, endocrine, emotional and mental growth, with a transition from complete dependence to relative independence. It should be noted that reproductive health is laid in childhood and adolescence[3].

One of the main physiological changes occurring in adolescent girls is menarche, which is often associated with the problem of irregular menstruation, abnormal uterine bleeding of the puberty period (AMC) and primary dysmenorrhea (PD) PD is one of the important tasks of pediatric gynecology. According to domestic and foreign authors, the frequency of PD in adolescent girls ranges from 8% to 90%, and in 15% of cases, PD has a severe course, leading to a violation of social and everyday activity, up to loss of working capacity, because of which this pathology is a serious medical and social problem[1].

The main theory of the occurrence of PD is considered to be prostaglandin, and today the first-line drugs of treatment are nonsteroidal anti-inflammatory

drugs( NSAIDs), the appointment of which is pathogenetically justified at any age and has a high level of evidence[2,4].

But NSAID therapy does not always lead to a decrease in the frequency of PD, but only has a symptomatic effect in the form of temporary relief of pain, and in severe PD in most cases there is no analgesic effect at all. Often, pain is not the only manifestation of this disease[1]. Sometimes, in the absence of painful sensations, neurovegetative, psychoemotional and metabolic-endocrine symptoms prevail, reflecting the low adaptive ability of the entire body, which is often due to the presence of a premorbid background. It is important to take into account that the already existing deviations in the state of health can lead to a severe course of PD in adolescent girls.

In the course of numerous studies, it has been shown that endothelial dysfunction occurs in DST, which is also described in PD, leading to various disorders on the part of all organs and systems. DST does not have a specific clinical symptom complex and is widespread in the population[2]. This pathology may not manifest for a long time and proceed in a mild form, but any provoking agent can be the cause of manifestation and even lead to fatal outcomes. These factors can be stress, physical activity, pregnancy, childbirth, infections, injuries, etc.

As a result of studying the scientific literature, we did not find information about the relationship between the expression of the marker of collagen catabolism (free hydroxyproline in blood serum) and the severity of PD in adolescent girls; the relationship between the indicators of endothelial dysfunction (matrix metalloproteinase-2, -9) present in DST and the presence of PD, its severity in adolescent girls; the indicators of the immune system in adolescent girls with PD and DST before and after treatment[3,4].

Thus, the study of PD in adolescent girls in combination with DST will reveal new aspects in the etiology and pathogenesis of this pathology and

develop a new pathogenetically justified differential approach to treatment tactics.

**The purpose of the study.** Improving the effectiveness of early diagnosis and developing a differentiated approach to the treatment of adolescent girls suffering from primary dysmenorrhea, taking into account etiopathogenetic factors.

**Materials and methods of research.** In order to solve the tasks and achieve the goal of the study, as well as to exclude the influence of factors that are not subject to study on the results of the work, the criteria for selecting patients for the study were established. The criteria for inclusion in the study were: age from 15 to 17 years, 11 months, 29 days, the diagnosis of primary dysmenorrhea, which was established by the results of anamnesis, examination, gynecological examination, non-invasive methods of excluding organic pathology of the organs of the reproductive system and informed consent.

**The results of the study.** Adolescent girls with primary dysmenorrhea with signs of connective tissue dysplasia are significantly more likely to suffer from combined chronic somatic pathology - mitral valve prolapse, chronic autoimmune thyroiditis, biliary dyskinesia, visual organ pathology and other extragenital diseases (77.1%) and functional disorders of the reproductive system – abnormal uterine bleeding (72%), functional ovarian cysts (56%).

Mothers of adolescent girls with primary dysmenorrhea who have signs of connective tissue dysplasia are significantly more likely to suffer from varicose veins of the lower extremities (56 %).

In adolescent girls with primary dysmenorrhea and connective tissue dysplasia, skin-joint signs (47.5%), visual organ disorders (44%) and small heart abnormalities (38%) were most common.

In patients with primary dysmenorrhea and connective tissue dysplasia syndrome pain significantly more pronounced than in adolescents without a

connective tissue dysplasia (rank total pain index  $28\pm 5,3$  and  $21.3\pm 4.5$  and the total number of selected descriptors  $12,0\pm 4,3$  and  $9.0\pm 3,5$  accordingly,  $p<0.05$ ).

The first episode of primary dysmenorrhea with DST in 88% of cases coincides with menarche.

The relationship between the severity of the course of primary dysmenorrhea, the presence of signs of connective tissue dysplasia and the content of magnesium in the blood serum has not been revealed. In primary dysmenorrhea, the concentration of matrix metalloproteinases 2 and 9 changes, which indicates endothelial dysfunction. 6. A decrease in free hydroxyproline, on average, by 2.8 times, matrix metalloproteinase 2-by 3.4 times, tumor necrosis factor  $\alpha$ -by 2.1 times, the content of antibodies to cardiolipin-by 3.5 times and an increase in matrix metalloproteinase 9 by an average of 4.2 times ( $p<0.05$ ) confirms the high effectiveness of treatment of primary dysmenorrhea with nonsteroidal anti-inflammatory drugs in combination with a vitamin-mineral complex containing calcium and vitamin D.

The proposed algorithm for the treatment of patients with primary dysmenorrhea makes it possible to convert the severe form of primary dysmenorrhea into moderate and mild in each 3rd observation. 8. The presence of connective tissue dysplasia in adolescence is not an indication for the appointment of drugs that affect collagen formation, since they do not increase the effectiveness of treatment.

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