

Influence of immune - biochemical status on the formation of reproductive function in girls

Isroilova Gulzhannat,
Azimova Komila,
Amanova Madina,

Samarkand State Medical Institute Samarkand, Uzbekistan.

Abstract The article discusses that, in childhood, the most common problems are inflammatory diseases of the external genital organs, fusion of the labia minora, and sometimes - prematurely started enlargement of the mammary glands or the appearance of pubic hair.

Keywords: adolescence, genitals, diseases, reproductive function, menstrual cycle.

INTRODUCTION

The teenage period deserves special attention and can be called a thin crystal line separating a girl from an adult woman. Finding harmony between beauty and health on your own at this age is not at all easy. Overweight - and fashion, cosmetics - and youthful acne, miniskirts, open tops - and excess body hair.

Many girls are embarrassed about their height, have complexes about the shape and size of the mammary glands, but rarely pay attention to the absence of menstruation at the age of 13-14 years. Moreover, few girls know that external signs that cause dissatisfaction with themselves can be caused by malfunctions in various internal organs, primarily the endocrine and reproductive systems. Frequent headaches, changes in blood pressure, increased fatigue, periodic uncontrollable irritability, irregularity or absence of menstruation, pain in the lower abdomen, painful menstruation, weight gain with a normal diet are the most common symptoms of deviations from the correct formation of the reproductive system of a future woman.

The relevance of girls' reproductive health at every stage of development

In our country, unfortunately, the number of women able to give birth to a child is decreasing. According to experts, the reason is that the reproductive health of women is deteriorating. And so that the expectant mother could give birth to a child, it is necessary to take care of this from the first days of the girl's birth. There are very important periods on the long road to the formation of the reproductive health of a young creature.

Intrauterine period

During the prenatal period, the main links of the reproductive system develop intensively and already begin to function. Even before the birth of a girl, the hormonal background of the future woman is formed and it is determined how many times she can become a mother and until what age the reproductive system will work properly.

Newborn period (from birth to one year)

This first year of a girl's life is important for proper hormonal development. The main factors that increase the death of hormone-producing cells include artificial feeding, frequent diseases of the respiratory tract and gastrointestinal tract, and allergic conditions. To preserve ovarian cells, a child must grow up healthy, walk more often in the fresh air, be breastfed, hardening and hygiene procedures, massage according to age must be carried out.

Neutral period (from 1 to 8 years old)

During this time, the baby needs to be taught a lot and, above all, the rules of hygiene. Even the most basic violations of the rules of personal hygiene can lead to inflammation of the genitals, a frequent pathology at this age is the presence of synechiae i.e. accretion of the labia minora, which leads to the appearance of chronic inflammation and the appearance of ascending infections (cystitis, pyelonephritis). The development of these pathological conditions is facilitated by anatomical and hormonal features, as well as other extragenital pathology (intestinal dysbiosis, frequent colds, allergic predisposition, respiratory and digestive diseases, parasitosis).

Prepubertal period (from 8 years to the first menstrual period)

The prepubertal period begins with the development of secondary sexual characteristics, and ends with the onset of the first menstruation (menarche). During this period, significant changes occur in the genitals as a result of the activation of the hypothalamic-pituitary region, ovaries and adrenal glands. At this stage, the girl's body is quite sensitive to the effects of various external factors (frequent colds, chronic tonsillitis, craniocerebral trauma, violation of the daily routine, etc.). It is necessary to monitor the state of immunity, gastrointestinal tract and other body systems.

Puberty (first menstrual period to 14 years)

During this period, the central nervous system is involved in the formation and regulation of menstrual function. Anovulatory cycles are observed in 20% of girls in the first 2 years of puberty. Regular menstruation in some girls is established only in the first 2 years of puberty. It is at this time that the secondary sexual characteristics reach full development. It was during this period that you can notice any deviations in the formation of the girl's hormonal health. First of all, these are menstrual

irregularities. Another problem that young girls face is painful sensations during menstruation of varying intensity. It is necessary to consult a pediatric gynecologist, since painful menstruation can be one of the symptoms of serious gynecological diseases.

Youth period (from 15 years old)

The formation of the mature functioning of the reproductive system comes to an end with the transition to ovulatory menstrual cycles. During this period, a stable hourly rhythm of hormone secretion is established, the formation of secondary sexual characteristics ends, a stereotype of menstrual function is formed, the girl's body becomes completely ready for pregnancy.

Each period is responsible for laying down women's health, which means that for the successful fulfillment of the reproductive function, together we need to show care and attention at every stage of the girl's transformation into a mother.

MATERIALS AND METHODS

The physiological menstrual cycle is characterized by rhythmic changes in the body of girls, controlled by the nervous and endocrine systems. The nature of the menstrual cycle in adolescent girls reflects the relationship in the pituitary-hypothalamus-ovary regulation system. The development of the reproductive system during puberty is influenced by both exogenous and endogenous influences. The state of menstrual function in adolescence is a criterion for subsequent reproductive well-being. Adolescence lasts from the onset of puberty to the onset of physiological and social maturity. In the process of puberty of girls, two periods are distinguished: prepubertal - from 8 years old to menarche and pubertal: the first phase (adolescence) - from menarche to 16 years; the second phase (adolescence) - from 16 to 18 (20) years. During this crucial and important period, the formation of secondary sexual characteristics, the physical development of the female body takes place. Until the end of puberty, even with an established regular menstrual cycle, the reproductive system has significant lability and is especially sensitive to the effects of unfavorable exogenous and endogenous factors.

RESULT

The reproductive system has 5 levels of regulation and is organized according to a hierarchical structure: the lower levels are regulated by the higher ones, according to the principle of feedback. Figure 1 shows the regulation of the reproductive system.

The highest level of regulation of the reproductive system is the cerebral cortex. The flow of information coming from the outside world is transformed into nerve impulses and transmitted to the lower level of

regulation, making its own adjustments. Many girls in the initial period of puberty have significant excitability and lability of both the central and autonomic nervous systems (ANS). The causes of instability of the nervous system can be acute and chronic stresses, changes in climatic conditions, violations of the regime of work and rest. Against the background of vegetative imbalance, various somatic diseases are noted, for example, the development of chronic gastroduodenal pathology or chronic fatigue syndrome. Disturbances in the development of the reproductive system can be based on deviations in the regulation of the ANS, a decrease in adaptation.

The joint functioning of the nervous and endocrine systems is based on the interaction of chemical signaling substances, neurotransmitters and neurohormones that transmit nerve signals from the nerve endings to other nerve cells or to cells of peripheral organs.

To date, three leading neurotransmitter forms have been established: neuropeptides, amino acids, and monoamines.

As a transmitter, the amino acid functions both exciting and depressing. Acetylcholine is a key substance in arousal transmitter compounds. Gamma-aminobutyric acid and glycine are inhibitory amino acids. Monoamines - translators include catecholaminergic (epinephrine, norepinephrine, and dopamine) and serotonergic transmitters. Initially, peptide-containing neurons of the hypothalamus are presented as neurosecretory neurons, later it was found that hypothalamic neuropeptides affect various regions of the brain, the peripheral nervous system and are present in many peripheral tissues and biological fluids of the body. The finding of neuropeptides in tissues largely determines the physiological functions of the body.

An important controlling role in the secretion of the gonadotropic regulator of the reproductive system - gonadoliberin - is played by catecholamines, which transmit an impulse to the nerve cells of the hypothalamus, which transform it into the language of the endocrine system. Dopamine, which inhibits the hormonopoiesis of prolactin by the pituitary gland, inhibits the secretion of gonadoliberin, inhibiting its rhythmic release. Serotonin, when accumulated in the pituitary gland, can have a direct effect on the pituitary gland, bypassing the hypothalamus. Norepinephrine stimulates the release of LH. The instability of the nervous system, which manifests itself in most adolescent girls, can be a leading factor in the development of the reproductive cycle. To date, the role of the sympathoadrenal system and its interaction with ovarian hormone production in adolescent girls has not been sufficiently studied.

CONCLUSION

Currently, the regulation of the menstrual cycle remains one of the most discussed topics of scientific discussions. Much attention is paid to adolescence, as a period of risk of the formation of early reproductive disorders against the background of physiological adrenal hyperandrogenism, hypoprogesteronemia, an unstable circchoral rhythm of gonadotropin secretion and frequent chronic anovulation. For adolescents, vegetative lability and tension of adaptive-compensatory mechanisms are characteristic. The ANS plays a leading role in maintaining the constancy of the internal environment of the body, through which the function of the gonads is regulated, which affects the formation of reproductive health. The hypothalamus, the pituitary gland are the coordinating glands of the ANS and the target organs of the reproductive system. Neurotransmitters are the leading regulators of the reproductive system. The modern study of the mechanisms of menstrual irregularities and vegetative-hormonal relationships in OM is extremely important, which leads to a pathogenetic substantiation and the development of optimal diagnostics, prevention and treatment of gynecological diseases in adolescent girls.

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