



OPTIMIZATION OF CONSERVATIVE TREATMENT OF REVIVING UTERINE BLEEDING OF PUBERTY

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Article history:	Abstract:
Received: November 4 th 2023 Accepted: December 4 th 2023 Published: January 4 th 2024	<p>This article focuses on optimizing conservative therapy for menstrual bleeding in adolescent girls, with an emphasis on recurrent cases.</p> <p>Objective: optimization of conservative tactics of management of adolescent girls with recurrent uterine bleeding</p> <p>Material and methods: 90 adolescent girls (mean age 14.6±1.2) with recurrent uterine bleeding were examined.</p> <p>Research methods: Traditional general clinical, hormonal, ultrasound.</p> <p>Results: The premorbid background was analyzed in detail and risk factors for the occurrence and recurrence of uterine bleeding of puberty were determined, with an emphasis on burdened reproductive heredity on the maternal side. A pathogenetic approach to the treatment of recurrent uterine bleeding in adolescent girls is proposed.</p> <p>Conclusions: A differentiated and step-by-step integrated approach to the conservative treatment of uterine bleeding in adolescent girls is needed.</p>

Keywords: Uterine bleeding of puberty, recurrent bleeding, premorbid background, tranexamic acid, vitamin-mineral complex.

Menstrual disorders in adolescent girls, in particular abnormal uterine bleeding of the pubertal period (AMPP), have a significant impact on the reproductive health of a woman of childbearing age. The incidence of AMCP ranges from 19% to 38%, relapses to 44% and do not tend to decrease. The main cause of their occurrence is the immaturity of the reproductive system of an adolescent girl. The aggravated premorbid background in combination with the lability of neuroendocrine regulation of menstrual function are the triggering point in the pathogenesis of AMPP (2, 5, 6). Multifactorial etiological causes contributing to the occurrence of AMCP are diverse: bacterial and viral infections, hypovitaminosis, disorders in the hemostasis system. Influencing the body of an adolescent girl during the period of hormonal restructuring, these factors (taken separately or together) eventually lead to a violation of estrogen metabolism, dyshormonesis, the appearance of a state of relative and/or absolute hyperestrogenemia. 1,3, 4).

In view of the above, a comprehensive multisystem approach to the treatment of AMCP is expedient and pathogenetically justified. At the same time, the numerous currently available methods of treatment for adolescent girls with AMCP are imperfect, as evidenced by the high frequency of their relapse (up to 44%). Therefore, clinicians' search for optimal treatments for adolescent girls suffering from AMC continues.

THE AIM OF OUR STUDY was to optimize the tactics of management of adolescent girls with RAMPP.

MATERIAL AND METHODS OF RESEARCH. We examined 90 adolescent girls aged 13-16 years who were not sexually active for the period 2022-2023 (mean age 14.6±1.2). The disease (AMCPP) occurred for the first time in 60% of the examined adolescent girls, in 40% of cases relapses were noted. In accordance with the intended purpose of the study, the examined adolescent girls were divided into two comparative groups: group 1 – primary AMCP (n=45), group 2 – relapses of AMCPP (n=45). The control group consisted of adolescent girls with a normal menstrual cycle (n=20). The criteria for inclusion and exclusion from the study were in line with those generally accepted in gynecological practice for pubertal uterine bleeding. All studies were carried out taking into account the requirements of the Helsinki Declaration of the World Association "Ethical Principles for Scientific and Medical Research with Human Participation", regulatory documents of the Ministry of Health and Health, in accordance with the principles of evidence-based medicine.

In order to identify the risk factors for the occurrence of AMCPP that contribute to the occurrence of AMCP, we conducted a detailed comparative analysis of the premorbid background (PF) of the examined patients, since the somatic health of the child affects the formation of the reproductive system in the future. The



greatest aggravation of the premorbid background with gastrointestinal diseases was noted in 70% of the examined patients of group P, anemia of the 1st-2nd degree (57%), pathology of the thyroid gland (46%), chronic tonsillitis and frequent acute respiratory infections (36%), hypovitaminosis (especially vitamins of group B) - 49%. In patients of the 1st group, PF was less burdened with the above-mentioned somatic diseases (up to 31%).

The study of gynecological morbidity among the examined patients revealed inflammatory diseases of the genitals (vulvovaginitis, adnexitis) up to 70% in patients of the 2nd group, 36% in patients of the 1st group. Bacteriological study of vaginal discharge revealed a monocausative agent in only 10%, in the remaining 90% of cases an association of microorganisms with a predominance of chlamydial-fungal-coccal (aerobic-anaerobic) flora was found. Blood biochemistry revealed anemia of 1-2 degrees in 57% of the examined patients.

Heredity was aggravated by various gynecological diseases of mothers (fibroids, cysts, DMK, infertility) also predominantly in patients of the 2nd group (62%), while in patients of the 1st group this figure was 17%. The premorbid background in the examined patients turned out to be polymorbid, and therefore we chose a differential approach to treatment.

RESULTS: The general condition of the thematic patients was assessed as satisfactory, taking into account the objective status of hemodynamic parameters. Patients of the 1st group (n=45) received hemostatic therapy with traditionally sex steroid hormones (COCs) initially in order to stop bleeding, then in order to normalize the menstrual cycle in a cyclic mode of 3-6 months (ethinyl estradiol 30 µg + desogestrel 0.75 µg). The starting dose of hemostasis depended on the abundance and duration bleeding, the patient's weight, amounting to 2 to 4 tablets, followed by a transition to a cyclic regimen. The polymorbidity of the background dictated the need to consult related specialists (neurologist, endocrinologist), whose recommendations were taken into account when choosing an adequate management tactics, at the same time correcting the identified disorders. Positive dynamics was observed at 3-4 months of treatment, a stable positive effect was observed at 6-8 months.

Patients of group P (n=45) received drugs with hemostatic purposes, correcting fibrinolysis, i.e. having antifibrinolytic and anti-inflammatory activity. Also, patients of group P, along with tranexamic acid, received a Vitamin-Mineral Complex (VMC), represented

by a mixture of 5 biologically active components (vitamins, minerals), the interaction of which is synergistic and cofactorial. The justification for the appointment of this VMC was that The reproductive system is closely related to the microecology of nutrition, as well as a high frequency (44%) of the detection of hypovitaminosis in the patients we examined. The dose of the drug was also selected individually depending on the reduction of the bleeding force (1-2 powders 2 times daily for 5-7 days). Bleeding cessation was observed from the 4th-5th day from the beginning of treatment with a slight "daub" of 1-2 days). A lasting positive effect was noted with the next normal menstruation. The rehabilitation period in patients of group P lasted 2-3 months without relapses, while in patients of group 1 long-term rehabilitation of 6-8 months was noted.

The clinical course correlated with laboratory parameters. The baseline level of adenohipophysis tropic hormones in the control and study groups before treatment corresponded to the reference normative values (4.73 ± 0.8 IU/L) ($p < .001$). However, estradiol concentrations of 189.6 ± 7.2 nmol/L, $188.9 \pm$ and 4.2 nmol/L were increased in the study groups, respectively, compared to 179.2 ± 7.32 nmol/L. The AMH value in the control group was 2.4 ± 0.5 ng/ml, in the main groups 1.87 ± 0.3 ng/ml, 1.85 ± 0.2 ng/ml, respectively ($p < 0.001$). The concentration of testosterone in the compared groups was higher than 1.23 ± 0.06 nmol/l than in the control group 0.84 ± 0.04 nmol/l.

The ultrasound results in the control group corresponded to the age norm. However, in all patients of the main groups, against the background of the standard size of the uterus, the M-echo on the 2nd-3rd day of the cycle was visualized in the form of a hyperplastic line (endometrial hyperplasia). 15.2 ± 0.09 mm, several single follicles (1-2) with a diameter of 2-3 mm and small point follicles in the amount of 6-8 with a diameter of 1-2 mm. These data indicate ovarian and uterine incompetence in patients of the main groups.

At the end of treatment, the hormonal profile showed a positive trend in the levels of sex hormones: a decrease in the concentration of androgens in patients of the main groups to 0.86 ± 0.03 nmol/L, a decrease in the level of estradiol to the reference values, respectively, compared to the control of 179.2 ± 73.1 nmol/L. There was also an alignment of AMH values to the norm. 2.3 ± 0.3 ng/mL and 2.21 ± 0.22 ng/mL ($p < 0001$), respectively.



Ultrasound results after treatment in all patients of the main groups and subgroups revealed positive changes in the form of a decrease in the size of the hyperplastic endometrium - a thin line of the endometrium of 5.2 ± 0.02 mm, increased echogenicity of the uterine endometrium, which indicated the appearance of full-fledged secretion; Healthy early antral follicles appeared in the ovaries in the amount of 4-5, fine-grainedness disappeared. Visually, there are signs of a decrease in the ovarian and uterine insufficiency, ovarian capacity.

Analysis of red blood parameters revealed compensatorily elevated hemoglobin values against the background of moderate bleeding (not profuse), which is typical for puberty: hemoglobin before treatment averaged 130 g/l, after treatment - 129.05 g/l; Hematocrit before treatment was 38.2 and after treatment was 38.1.

Hemostasiogram parameters did not reveal statistically significant differences in the compared groups: blood coagulation time before treatment beginning 2.58 s. / end 3.45 sec. After treatment, blood coagulation time beginning 2.44 s./end 3.27 s.

In parallel with the positive dynamics in laboratory and instrumental research methods, there was an improvement in clinical symptoms, a cessation of uterine bleeding - the rhythm of menstruation was restored, a biphasic menstrual cycle appeared (65%). No side effects were observed during the use of the vitamin-mineral complex in combination with COCs.

CONCLUSION. The complex treatment of patients with AMCP offered by us is an effective alternative to traditional methods of treatment, since it affects the pathogenetic links of the mechanism of the occurrence of AMCP. This method of treatment is justified, since the hemostatic effect is achieved without hormonal load on the immature HSN, and also contributes to the prevention of relapses. Clinical studies have shown that the effectiveness of the MCP treatment offered by us was 84%, there were no relapses, bleeding stopped by the end of the 1st week of treatment, normalization of the menstrual cycle and a stable positive effect by the beginning of the next menstruation, which reduced the duration of treatment by three times.

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