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Some parameters of connective tissue metabolism in genital prolapse.

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Summary. Genital prolapse (GP) is one of the most common gynecological problems, with an incidence of 28-39%. The problem is exacerbated by the fact that about 1/3 of all these patients are women of reproductive age. And with age, GP becomes progressive. We examined 63 women with the GP of reproductive age who applied to the 8th maternity complex in Tashkent. We found that in women, genital prolapse in 57.1% of cases is due to uCTD. It was found that the severity of GP development depended on the severity of uCTD. In women with GP and uCTD, the magnesium level was significantly lower by 1.8-2 times than in the group without pathology. In more than half (69.4%) of women with GP and uCTD, the excretion of OP was significant and exceeded the due value by more than 2 times. In almost a third (30.6%) of patients, the increase in this indicator was moderate and averaged 76.1±1.9 mg/day.

Keywords: *genital prolapse, undifferentiated connective tissue dysplasia, hydroxyproline, magnesium.*

Relevance. Over the past decade, the topic of connective tissue dysplasia has become widespread. The high frequency of occurrence, the progressive nature of the course, the multi organism of the lesion, and the often unfavorable outcome of this pathology make it an important medical and social problem [1, 2, 4, 8].

Connective tissue dysplasia (CTD) is a hereditary decrease in the strength of connective tissue due to an anomaly in its structure [1, 2, 3, 9]. One of the manifestations of undifferentiated connective tissue dysplasia is genital prolapse, the high frequency of which explains the relevance of the problem [1, 2, 3, 4]. Thus, in the structure of gynecological pathology, the incidence of genital prolapse varies

according to various authors from 1.7% to 28% of patients [4, 5].

Despite modern diagnostic and treatment methods, to date, no optimal algorithm has been found for managing patients with genital prolapse and connective tissue dysplasia or without it, taking into account the characteristics of impaired collagen metabolism to prevent the development, progression and relapses in the postoperative period [1, 3, 6 , 7].

Due to the low degree of diagnosis of connective tissue dysplasia, the need for a biochemical study of the metabolism of the structural components of the connective tissue is obvious. Collagen is the most abundant connective tissue protein. In biological systems, collagen occurs in bundles of linear fibers that are almost identical in tensile strength to steel wire. In light of such an important role of collagen, it is not surprising that many serious diseases are associated with a violation of its synthesis. Hydroxyprolines are found only in collagen; therefore, their analysis in tissues reflects the concentration of collagen in these tissues [8, 10, 12, 13]. Obviously, to judge the possible role of connective tissue dysplasia in genital prolapse, perhaps indirectly by studying the concentration of hydroxyproline.

Currently, the role of magnesium deficiency in the pathogenesis of uCTD is being intensively studied. With magnesium deficiency, fibroblasts lose their ability to produce collagen. Magnesium ions are part of the connective tissue and are involved in the regulation of its metabolism, being a cofactor in the remodeling of the connective tissue.

In addition, biochemical methods can be used in the aspect of evaluating the effectiveness of ongoing measures to prevent connective tissue complications and predicting the course of a dysplastic process [9, 11, 14, 15].

Purpose of the study: optimization of research methods for undifferentiated connective tissue dysplasia with genital prolapse in women of reproductive age.

Material and methods: The studies were carried out based on the Department of Obstetrics and Gynecology of the TMA in the 8th obstetric complex in Tashkent for 2021-2022. 83 women of reproductive age were examined, of which 63 women

had genital prolapse (main group). The remaining 20 women without genital prolapse formed the comparison group. According to the severity of genital prolapse (according to the POP-Q classification), the main group was divided into 3 subgroups: 1 A subgroup consisted of 29 women with grade I prolapse; 1 The subgroup consisted of 23 women with II degrees of genital prolapse and 1 C subgroup consisted of 11 women with a severe degree of genital prolapse.

The inclusion criteria for the group were: POP-Q 1-3 degree prolapse of the genitals, preserved menstrual function, the absence of diseases that increase intra-abdominal pressure and are accompanied by chronic cough, and the absence of surgical intervention on the genitals.

The exclusion criteria from the group were: the presence of chronic pathologies that increase intra-abdominal pressure, and a history of operations on the genital organs, including hysterectomy, hysterectomy, Manchester operation, etc. Recruitment into groups was carried out by "case-control".

In the groups, an anamnesis was taken, a physical examination was performed, and the leading clinical syndromes of uCTD were identified.

Methods for diagnosing uCTD included registration of phenotypic stigmas, determination of the magnesium level in the blood serum, and the level of hydroxyproline in the daily urine. The study of all biochemical markers of collagen breakdown was carried out in the clinical diagnostic laboratory of the 3rd TMA clinic.

The significance of the difference in quantitative data with a normal distribution was carried out using Student's t-test for independent samples, and the arithmetic means and standard deviation M (SD) were calculated. To assess differences, the critical level of significance was $p<0.05$.

Research results: We conducted a clinical and anamnestic analysis, including somatic, gynecological, and reproductive pathology of women, as well as the current condition and complaints. The average age of women in the main group was 26.4 ± 2.2 years, and in the comparison group - 24.5 ± 0.6 years, which was in an unreliably significant range.

The main complaints in patients with genital prolapse were associated with the underlying disease: a sensation of a foreign body in the vagina, pulling pains in the lower abdomen, dyspareunia, in more advanced cases, there is a hernial sac in the perineum. The prolapse of the internal genital organs increased with an increase in intra-abdominal pressure, i.e. when coughing, sneezing, lifting weights and even when walking normally. With a long-term process, urinary and gas incontinence occurs, defecation and urination are disturbed, which are aggravated by coughing, sneezing, and lifting weights. In addition to disorders of the urinary organs, about 30% of women with genital prolapse suffer from dyspareunia, otherwise called "pelvic descent syndrome" or "pelvic dysynergy" and various urinary disorders. The occurrence of the above complaints mainly depended on the severity of genital prolapse, regardless of the presence of connective tissue dysplasia.

The occurrence of genital prolapse in patients of the studied groups was most often associated with the number of births in history. All patients were in labor. The study of the anamnesis in the studied women showed the presence of complications associated with childbirth (rapid or prolonged labor, premature rupture of amniotic fluid, perineal ruptures). So, the complicated course of childbirth in the IA group was observed at 24.1%, in the I B group - at 47.8%, and in the I C group - at 81.8%. From this, it follows that one of the factors in the development of genital prolapse is the complicated course of childbirth.

The presence of uCTD in the studied women was determined when they had 8 signs of undifferentiated connective tissue dysplasia out of 16 most highly informative markers [1, 2, 4]. These include: joint hypermobility, thin skin, dentine defects, asthenic syndrome, mitral valve prolapse, lower limb varicose veins, arachnodactyly, skin hyperextensibility, gothic palate, striae, scoliosis, neurocirculatory dystonia, deviated septum, systolic murmur on cardiac auscultation due to small anomalies in the development of the heart, congenital dislocation of the hip, keloid scars. The severity of connective tissue dysplasia was assessed according to the scale of clinical criteria for the severity of uCTD.

Thus, in the main group of women with genital prolapse, uCTD was detected

in 36 women, which amounted to 57.1%. Whereas, in the group of women without genital prolapse, this indicator was 8.7%, which is 6.6 times less than in the group with genital prolapse. uCTD in 2 women without genital prolapse was observed in mild mild severity.

When studying the severity of uCTD in groups of women with genital prolapse, interesting data were obtained (Table 1).

Table 1.

Severity of uCTD in women with genital prolapse.

uCTD the severity (n=36)	1A group (grade 1, n=29)		1B group (grade 2, n=23)		1C group (grade 3, n=11)	
	Abc	%	Abc	%	Abc	%
mild (mild) degree (n=9)	6	20,7	3	13,04*	-	-
medium (moderate) (n=17)	5	17,2	9	39,1*	3	27,3*
severe (pronounced) degree (n=10)	-	-	2	8,7	8	72,7▲

Note: * - significant differences in the indicators of the groups relative to the indicators of the group with 1 degree of genital prolapse ($p \leq 0.05$); ▲- differences in indicators relative to the indicator of the group with 2nd degree of genital prolapse ($p \leq 0.001$)

As can be seen from Table 1, in the group of women with a mild degree of genital prolapse (group 1A), uCTD occurred in 37.9% and was represented in almost equal amounts by a mild (20.7%) and moderate (17.2%) degree. There were no women with severe uCTD in this group. The reverse trend was observed in group 1C women with severe genital prolapse. In 100% of women with severe genital prolapse, uCTD was noted with a predominance of severe (72.4%). In the group of women with grade 2 genital prolapse, uCTD occurred in 60.9% of women, among whom moderate uCTD prevailed (39.1%), while mild and severe uCTD was 3 and 4.5 times less, respectively.

The foregoing allows us to conclude that the severity of the development of genital prolapse depends on the severity of uCTD, and the more pronounced the signs of uCTD, the more severe the form of genital prolapse in women of reproductive age.

Analyzing the data presented above, it is noteworthy that in patients with connective tissue pathology, the incidence of complications associated with childbirth is always several times higher than in patients with normal collagen metabolism, even despite the fact that in some cases, the number of births is greater in women without connective tissue dysplasia.

The study of the timing of the development of genital prolapse in the studied women showed that GP develops after childbirth much earlier in women with uCTD and is about 2-3 years after childbirth, in contrast to patients without uCTD, in whom genital prolapse developed more often in late reproductive age.

Table 2

The timing of the onset of the development of genital prolapse by the time of examination of patients with and without UCTD.

Disease duration	2-4 years		4-5 years		Over 5 years	
	%	cont.	%	cont.	%	cont.
1A group with uCTD (n=11)	9,1	3,6±0,4	36,4	4,9±0,5	54,5	6,2±1,3
1A group without uCTD (n=18)	-		38,9	4,6±0,8	61,1	6,8±2,5
1B group with uCTD (n=14)	14,3	3,3±1,2	64,3	4,5±0,6	21,4	5,3±1,4
1B group without uCTD (n=9)	11,1	3,0±0,8	44,4	4,2±1,1	44,4	5,0±0,2
1C group with uCTD (n=11)	72,7	2,2±0,4	27,3	4,0±0,4	-	-

Note: * - significant differences in the indicators of the groups relative to the indicators of the group with 1 degree of genital prolapse ($p \leq 0.05$); ▲- differences in indicators relative to the indicator of the group with 2nd degree of genital prolapse ($p \leq 0.001$)

Since genital prolapse in patients with uCTD develops at a younger age, at the time of the examination, the duration of the course of genital prolapse was longer than in patients with PH without uCTD. It should also be noted that the severity of GP also depended on the duration of the pathology. So, in patients I B with uCTD, the duration of PG varied and was mainly more than 4-5 years in 64.3% of women. Whereas, in women of this group without uCTD, the duration of the disease for 4-5 years was observed only in 44%, on average, it was about 2 years. In women with mild GP without uCTD, the onset of the disease after childbirth averaged 6.8±2.5 years.

In patients without connective tissue pathology, the disease at the time of the study was of a more short-term nature and lasted mainly about 5 years (II B - 72.94% (62), III B - 43.7% (52)) (Table 4).

A history of genital prolapse in mothers and/or sisters in patients of group IA with connective tissue dysplasia occurred in 25% of cases (21) and in 6.25% (8) in patients of group IB in the absence of CTD.

Aggravated heredity (genital prolapse in mother, sister) in patients in group II A was detected in 41.2% of cases (21), and in group II B in 8.2% (7). In group III A, it was observed in 36.5% of cases (17) in patients with connective tissue dysplasia, and in group III B in 10.1% (12) in the absence of connective tissue pathology.

Burdened heredity with the presence of genital prolapse in the next of kin occurs several times more often in patients with connective tissue dysplasia. This observation indicates that CTD is a genetically determined disease.

To confirm uCTD, all patients underwent a study of the level of daily excretion of hydroxyproline in the urine (Table 3).

Table 3

The level of hydroxyproline in daily urine in women with genital prolapse (mg/day).

Groups	Light uCTD (n=9)	Moderate uCTD (n=17)	Severe UCTD (n=10)	Women with GP without uCTD (n=27)
I A group (n=29)	63,14±2,67*	89,05±2,19*	-	42,07±2,01
I B group (n=23)	107,08±1,35*♣	113,12±6,21*♣	170,28±3,39*	57,54±2,67
I C group (n=11)	-	142,54±5,88♣	255,08±11,28	-

Note: * - a significant difference in the indicators of the group with uCTD relative to the group of women without uCTD ($p \leq 0.001$); ♣ - a significant difference in the indicators of the group of women with mild and moderate uCTD relative to the group with severe uCTD ($p \leq 0.05$)

The analysis revealed an increase in the daily urine excretion of OP in the majority of the examined women with GP, which reflected the process of catabolism and collagen synthesis. In more than half (69.4%) of women with GP, the excretion of OP was significant and exceeded the due value by more than 2 times. In almost a third (30.6%) of patients, the increase in this indicator was moderate and averaged 76.1±1.9 mg/day.

On the other hand, with the increase in the age of women and the duration of genital prolapse, higher disturbances in collagen metabolism are observed. Thus, the highest values of OP excretion in daily urine were observed in women with a pronounced degree of genital prolapse (255.08±11.28).

Thus, we have identified the relationship between the severity of genital prolapse in women and the presence and severity of uCTD: the more severe the severity of uCTD, the more severe the degree of genital prolapse. This is confirmed

by increased excretion of OP in daily urine in the women under study.

Another important indicator of connective tissue metabolism is the level of magnesium in the blood. It is magnesium deficiency, as a fundamental element in the formation of connective tissue, that plays a huge role both in the development of somatic pathology and can lead to the formation of heart defects, subluxations, and underdevelopment / insufficiency of connective tissue structures (in our genital prolapse).

When studying the indicators of the level of magnesium in the blood serum, it was found that in women of the control group (without PG and uCTD) throughout the entire observation period, the magnesium level averaged 0.84±0.04 mmol/l ($p>0.05$).

In women with GP, the magnesium content was significantly lower than in the control group ($p\leq0.05$) and depended on the severity of uCTD (Table 3).

Table 4

Serum magnesium level in women with PH (mmol/l).

Groups	Mild uCTD (n=47)	Moderate and severe uCTD (n=16)	Women with PH without uCTD (n=51)
Group with GP 3 degree (n=5)	-	0,49±0,12	-
Group with GP with 2 degree (n=9)	0,60±0,28*	0,53±0,76*	0,70±0,05
Group with GP 1 degree (n=12)	0,65±0,21*	-	0,85±0,07
Control group without GP and uCTD (n=88)	0,89±0,19	0,89±0,19	0,89±0,19

Note: * - a significant difference in the performance of the group with uCTD relative to the group of women without nCTD ($p<0.05$).

Thus, the level of magnesium in the blood serum of women in the group with GP without uCTD changed throughout the entire observation period, averaging 0.78±0.07 mmol/l and was below the reference values (0.8-0.85 mmol/l), but within uncertainly significant limits. According to biochemical analysis, the concentration of total magnesium below the optimal for pregnant women (<0.8 mmol / l) was observed in 37.3% of women with CCI without nCTD, in 76.6% and 81.3% in women with mild and severe nCTD degrees, respectively.

Serum magnesium concentration of less than 0.7 mmol/l, reflecting a profound magnesium deficiency, was found only in the group of women with CI and uCTD: in 12.8% of women with mild uCTD and in 18.2% of pregnant women with severe uCTD.

Understanding the characteristics of connective tissue metabolism, namely, an increase in the level of hydroxyproline in the urine, and a decrease in the level of magnesium in the blood, and early detection of these disorders can form the basis for preventing the progression of genital prolapse in reproductive age.

World studies of recent years show that every tenth woman has a lifetime risk of surgical treatment of this pathology. In 30% of cases, after surgery, prolapse relapses occur, which requires a second operation. In recent years, there has been an increase in the frequency of this pathology, which is probably due to an increase in women's life expectancy. The goals of treatment are to restore the anatomy of the perineum and pelvic diaphragm, normalize the function of adjacent organs. An analysis of the literature, both domestic and foreign, showed an insufficient number of sources devoted to the correction of early vaginal prolapse in women of reproductive age. Treatment of symptomatic PH should begin with conservative methods. Thus, research by scientists has shown that the correction of lifestyle and working conditions, the rejection of bad habits, the change in food stereotypes, water procedures, therapeutic exercises can be considered as an independent treatment in the early stages of the pathological process, significantly reducing the

pharmacological load, and in some cases allow avoiding surgical intervention [5, 6]. This is especially true for women in the postpartum period who are breastfeeding. Aesthetic gynecology centers are visited by women of different ages with anatomical, traumatic and age-related changes in the intimate area. First of all, they are driven by the desire to eliminate aesthetic defects, restore the functional state of the mucous membranes and organs, and improve the quality of life. In solving the problems of aesthetic gynecology, both invasive and non-invasive and minimally invasive methods are used. The muscular, connective and mucous tissues of the female genital organs are affected. Methods of treatment of pelvic floor dysfunction, we selected individually, depending on the severity of the clinical manifestations of the disease. The main group consisted of 43 patients admitted to the department with PH of varying severity, who underwent plasty of the anterior vaginal wall in combination with plasty with a free synthetic prolene loop - TVT-O (Tension-free Vaginal Tape) for stress urinary incontinence and colpoperineolevathoroplasty. At stage 1, a typical anterior colporrhaphy and posterior colpoperineolevathoroplasty were performed. Then at the 2nd stage sling operation TVT-O. The comparison group included 20 women with PH who underwent plasty of the anterior vaginal wall in combination with colpoperineolevathoroplasty without the installation of synthetic materials. After appropriate preparation for surgery, 20 patients of the comparison group underwent anterior colporrhaphy and colpolevatoroplasty. Under aseptic conditions, after triple treatment of the skin above the pubis, vagina and upper third of the thighs with a solution of iodonate, the surgical field was covered with sterile napkins. The cervix was taken on bullet forceps and pulled outward. Departing 1.5 cm from the external opening of the urethra, a longitudinal incision 6 cm long was made, the bladder was separated from the anterior wall of the vagina in a blunt and sharp way. A double-row purse-string suture was placed on the urogenital diaphragm, its lower pole. Produced reposition of the bladder. Departing 4 cm from the external cervical canal, the cardinal ligaments were isolated on the right and left. The cardinal ligaments were isolated, tightened and

overlapped to the anterior surface of the cervix at 12 o'clock. The formed surface was examined for the absence of defects, the presence of complete hemostasis.

Along the edges of the wound of the mucous wall of the vagina, segments were cut along the entire length, 15 mm wide. The anterior vaginal wall was repaired with a continuous vicryl suture. After hydropreparation, a triangular flap was cut out on the posterior wall of the vagina. Tunneling was performed in the lower corners, the levators were exposed and brought together with two sutures. The vaginal mucosa was sutured with a continuous, twisting Vicryl suture. On the skin - intradermal plastic sutures. A swab in the vagina soaked in 70% alcohol for 24 hours. In the bladder - Foley catheter No. 14. Control count of napkins and instruments before and after surgery. Evaluation of urine on the catheter, total blood loss and the duration of the operation. In this group, the average duration of the operation was 1.3 hours, the average blood loss was 122.0 ml (from 70 to 150 ml). Postoperative bed-day was 4.6 days. Here is a description of the operation in the main group (43 patients): Anterior and posterior colpoperineolevathoroplasty with bladder reposition were performed as described above in the comparison group (Manchester operation in Fothergill's modification). The TVT-O operation was performed after completion of the anterior vaginal wall repair using specially designed instruments and a device with two needles connected to a 45 cm long and 1.1 cm wide prolene tape enclosed in a polyethylene sheath. Departing 1.0 cm from the external opening of the urethra, a longitudinal incision 2.5 cm long was made. Spent limited mobilization of paraurethral spaces. A conductor probe was inserted into the lumen of the catheter. The needle with the tape, alternately, first on the right, and then on the left, was passed paraurethral, paravesical, through the obturator foramen into the area of the hip fold from both sides. The loop was located in the area of the middle part of the urethra. There is no excretion of urine when coughing. The anterior vaginal wall was repaired with a continuous vicryl suture.

The average duration of operations in the main group was 1.8 hours, of which TVT-O operation took from 20 to 25 minutes. Blood loss averaged 133.0

ml (80-160 ml). No complications were noted during the operation in any case. In all patients, the Foley catheter was removed 10 hours after surgery. After removal of the catheter, 96.3% (52) of the patients recovered spontaneous urination. In 2 cases (3.7%), urinary retention was observed for 2 days. On ultrasound, the residual volume of urine after surgery was not detected in all patients. The average length of stay of patients in the hospital was 4.6 days. Extremely important is the problem of recurrence of PG. According to available data, the effectiveness of anterior colporrhaphy during 3 years of follow-up ranges from 45% to 91% and decreases over time. According to some authors, relapses of PH occur in 2.3-4.8% of cases, according to others, their frequency reaches 24-31%.

We conducted a prospective survey of 63 patients using a telephone interview 6 and 12 months after vaginal surgery. Patients were asked about their satisfaction with the operation using a visual analog scale, the results of which were divided into three categories: dissatisfied (1-2), satisfied (3) and very satisfied (4-5) [9]. Analysis of the obtained data (Table 5) showed that 20% (4/20) of patients in the comparison group were dissatisfied with the long-term results of operations, which is significantly more than in the main group - 2.3% (1/43, p<0, 05). Accordingly, there were 2.3 times more satisfied patients in the main group than in the comparison group (34.9%/15%) (p<0.05). The results of the survey after 12 months were identical to those of the first survey.

Table 5

The results of using the visual analog scale by questioning operated patients.

Results operations	Main group (n=43)		Comparison group (n=20)	
	Abs.	%	Abs.	%
Not satisfied (1-2 points)	1	2,3	4	20*
Satisfied (3 points)	27	62,8	13	65
Very satisfied (4-5 points)	15	34,9	3	15*

Note: *- $p<0.05$, the differences in the indicators of the compared groups are significant.

Postoperative complications occurred in 5 out of 20 patients of the comparison group, which amounted to 25.0% and in 4 (9.3%) patients of the main group. Analysis of the obtained data showed that in the comparison group 5 (25%) complications were registered, such as recurrence of vaginal wall prolapse - in 3 (15%), rupture of sutures on the perineum - in 1 (5%) and urinary incontinence - in 1 (5 %). Only 1 woman who underwent plastic surgery on the vagina in combination with the TVT-O installation was diagnosed with 1 complication during 3-5 years of follow-up: erosion of the mucous membrane of the anterior vaginal wall 2 months after the TVT-O installation. Thus, our use of a visual analogue scale and a scoring of personal data to assess the results of surgical treatment of PH indicate a high efficiency of sling operations and a low unsatisfactory outcome, estimated at 2.3%. Clinical evaluation of the results of sling surgeries to correct PH for 3 years showed a low incidence of complications (erosion of the vaginal wall with prolene tape - 1 case) compared with patients who underwent plastic surgery for genital prolapse without the use of prolene implants (25%).

Discussion.

Thus, in recent years, in many countries with high health potential, for various reasons, the number of cases of early genital prolapse in women of active reproductive age has increased, a favorable outcome of which is ensured by early diagnosis and timely initiation of therapy. The problem of genital prolapse, especially in women who have not completed their reproductive function against the background of pathological childbirth, has not lost its relevance to date, due to the difficulties of their early diagnosis, a variety of complications, the lack of clear recommendations for managing this contingent of women and poor quality of life.

In general, this pathology is about 28-39% in the structure of gynecological diseases. The problem is exacerbated by the fact that about 1/3 of all these patients are women of reproductive age. And with age, PG acquires a progressive character, leading to functional disorders, causing severe physical and mental suffering

(Karabulut A., Ozkan S., Kocak N., Alan T., 2014). In many foreign sources, early forms of prolapse are separately identified as vaginal relaxation syndrome.

This is due to the fact that the initial stages of the descent of the walls of the vagina, the gaping of the genital slit can lead to a number of sexual problems: a weakening of sensations during intercourse not only in a woman, but also in a partner, as well as dyspareunia. In this case, urinary incontinence is often a concomitant problem. Thus, the quality of life of women with vaginal relaxation syndrome is sharply reduced (Naboka Y.L., Rymashevskiy A.N., Kogan M.I., 2016).

In women with genital prolapse, nCTD was detected in 57.1% of cases. We found that the severity of genital prolapse development depends on the severity of UCTD, and the more pronounced the symptoms of UCTD, the more severe the form of genital prolapse is observed in women of reproductive age. In women with genital prolapse, the magnesium content was significantly lower by 1.8–2 times than in the control group, and depended on the severity of UCTD. Early detection of low magnesium levels in the blood can form the basis for preventing the formation and progression of genital prolapse in reproductive age.

Understanding the peculiarities of connective tissue metabolism, namely, a decrease in the level of magnesium in the blood, and early detection of these disorders can form the basis for the diagnosis and prevention of the progression of genital prolapse in reproductive age. A new branch of medicine, aesthetic gynecology, is becoming increasingly popular in our country. Aesthetic gynecology centers are visited by women of different ages with anatomical, traumatic and age-related changes in the intimate area. First of all, they are driven by the desire to eliminate aesthetic defects, restore the functional state of the mucous membranes and organs, and improve the quality of life. Modern methods of aesthetic gynecology, based on the latest scientific achievements, allow solving many medical problems associated with disorders in the urogenital tract. In solving the problems of aesthetic gynecology, both invasive and non-invasive and minimally invasive methods are used. The muscular, connective and mucous tissues of the female genital organs are affected. At the present stage, the proposed numerous methods for improving surgical techniques

and scientific achievements have led to the creation of so-called "new" surgical aids, which are characterized by low trauma, a minimum amount of surgical intervention while maintaining high efficiency.

For a number of years, in order to minimize surgical interventions and reduce the rehabilitation period, sling interventions using synthetic materials have been introduced. One of these operations is the TVT-O method, or, as it was called, plastic with a free synthetic loop. In our republic, there is still not enough data on the use of sling operations for SUI in women [4, 7]. The foregoing allows us to judge that the problem of correction of stress urinary incontinence is not completely resolved, has a number of contradictions, and therefore requires further detailed and comprehensive study.

Conclusions:

1. We found that the severity of the development of genital prolapse depends on the severity of uCTD, and the more pronounced the signs of uCTD, the more severe the form of genital prolapse in women of reproductive age.
2. Understanding the characteristics of connective tissue metabolism, namely, an increase in the level of hydroxyproline in the urine and a decrease in the level of magnesium in the blood serum, and early detection of their disorders can form the basis for preventing the formation and progression of genital prolapse in reproductive age.
3. There were no recurrences of PH when using sling operations, and the incidence of postoperative complications was 6.5 times lower than in women without using TVT-O.
4. Long-term results of operations were not satisfied with 20% (4/20) of patients in the group operated without TVT-O. In the group of women who underwent sling operations, there were 2.3 times more satisfied patients than in the comparison group (34.9%/15%) ($p<0.05$).

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