MALE ANDROGEN DEFICIT AND CHRONIC INFECTIONS AS FACTORS CHRONIC REPLACED UROLITHIASIS

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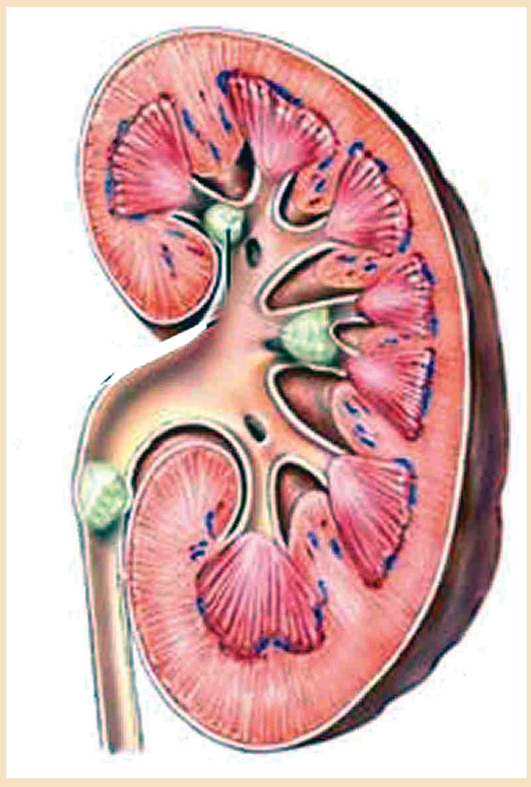


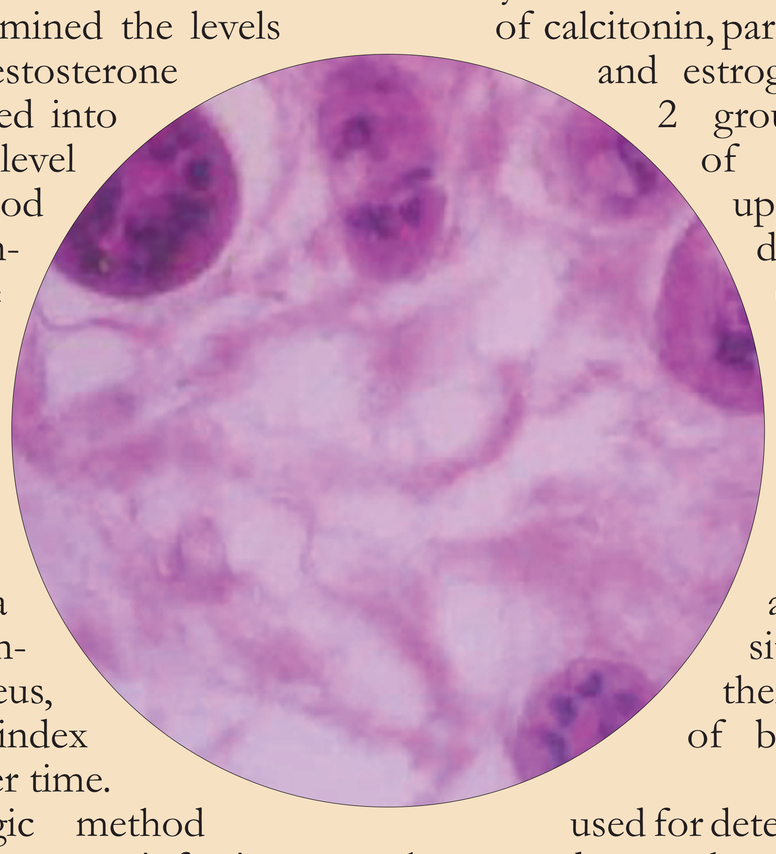
Urinary stone disease (USD) or urolithiasis, as well as its most common clinical manifestation - an attack of renal colic is still an actual problem of modern urology [1]. The widespread use of preservatives, semis, stabilizers and baking powder and a significant consumption of flour products increase allocation of negative particles and acidic products, reduce the PH of urine and excretory-secretory violate renal function [2]. The tendency to the formation of stones in individuals with impaired exchange of trace elements significantly increases due to changes in hormonal balance (parathyroid hormone, calcitonin, sex hormones), deficiency of vitamins B and D, inherited disorders. There is a high probability of kidney stones in the urinary system due to abnormalities of the structure (stricture urethra, ureteropelvic junction, bladder outlet obstruction, nephroptosis). A significant factor is the lack of exercise and age-related changes of bone tissue, leading to osteoporosis and an increased release of calcium.

However, even without the trigger factors (endocrine and metabolic disorders, abnormal structure, endemic) in the European population there are people prone to chronic recurrent urolithiasis.

The aim of our study was to investigate the pathogenesis of recurrent urolithiasis (re-formation of kidney stones) in different age groups in patients without abnormalities of the structure of urinary system, metabolic disorders, living in Kharkiv region (Ukraine).

Materials and Methods:

On the basis of Kharkiv Regional Clinical Center of Urology and Nephrology 237 patients with recurrent urolithiasis (i.e. stones departed in the anamnesis and the patient had stones in the kidney or ureter after been examined) were comprehensively studied and treated. When collecting anamnesis a great attention was paid to the remoteness of urolithiasis, the number and frequency of stone discharge, dietary factors, the presence of ulcer history or hyperacidity gastritis, pecularities of drinking regime, mainly consuming water. Patients underwent general clinical blood tests, urine tests, blood chemistry, there were determined the levels of total and ionized calcium in the blood and urine. Patients also underwent synoptic and intravenous urography (iodine-containing preparations tolerance), ultrasound over time (at the time of admission, 2 weeks, 3 months and 6 months after the discharge of the stone). There was conducted the study of hormone function: there were determined the levels of calcitonin, parathyroid hormone, testosterone and estrogen. Patients were divided into 2 groups according to the level of testosterone in the blood up to 2 ng / ml (hypoandrogenemia) and more (eugonadal state). Patients with hypoandrogenemia underwent the X-ray densitometry (computed tomography) of the first lumbar vertebra and the ultrasound densitometry of the calcaneus, there was determined the index of bone mineral density over time.



Bacteriologic method used for determining bacterial, trichomonas infection **ureaplasma** and mycoplasma; chlamydia and other sexually transmitted infections, diagnosed by enzyme immunoassay and PCR.

Depending on the size of the stone [4], the ureteral patency, patients were prescribed: downstream litholysis, extracorporeal and / or lithotripsy, surgical removal of the stone.

In the case of pathogenic infections there was conducted a specific treatment, in addition to them there were prescribed herbal medicine and nutritional therapy in metaphylaxis (subgroup 1A – 121 people). Patients who received only herbs and observed dietary restrictions were related to the subgroup 1B – 36 patients (the control group with respect to 1A).

The patients with hypoandrogenemia (group 2) – 80 people were also divided into two subgroups. A subgroup of patients 2A (46 people) received hormone (stimulating and substitutional), phyto-and diet therapy, underwent the treatment for opportunistic infections in case they were detected, the subgroup 2B (the control one – 34 patients) – received only herbal medicine and complied with dietary restrictions.

Due to the methods of immuno- and histochemistry there has been analyzed the effect of infectious agents on the physico-chemical properties, lithogenicity, urine pH, and the ratio of its oncotic and osmotic pressure.

Results and discussion:

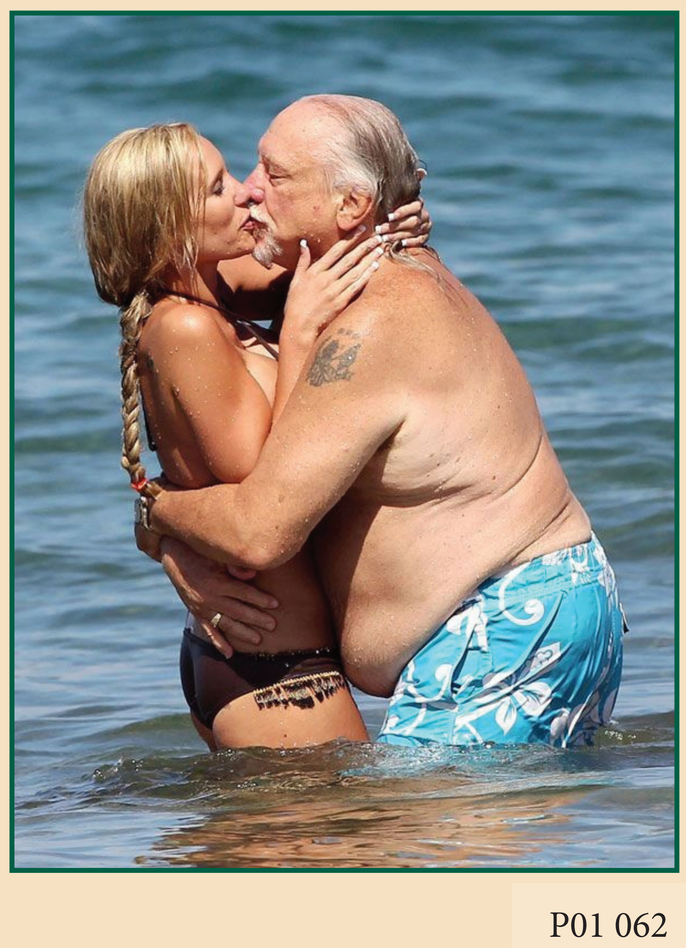
Among the 157 patients in Group 1 only in 31 (19.7%) there have been identified factors that trigger stone formation: hyperparathyroidism, hyperacid gastritis, osteoporosis. In 142 (90.4%) patients there has been identified abnormal bacterial or conditional specific flora. The most commonly planted is Ureaplasma Urealythicum (68%)[3]. In the group 1A (patients were treated for ureaplasma) only 13.3% in 6 months have kidney stones by the ultrasound. (as opposed to the control group (56%), who were given only dietary recommendations and prescribed with herbal medicine). In group 2 (80 patients), 85% of patients was diagnosed the decreased index of tissue mineral density (IMDme = 0.56) up to osteoporosis (IMPcr = 0.5), pathogenic flora was diagnosed in 33.8%, where ureaplasma infection was diagnosed in 23.8% of cases.

In the prescription of hormone replacement therapy and treatment for the opportunistic infection incidence, the re-formation of stones was diagnosed only 7 in 46 patients (15.2%), in contrast to the control one, where the stone recurrence occurred in 22 patients (64.7%) out of 34 people of the second control group. Hormonal indicators, levels of calcium (Ca) and densitometry results in dynamics of treatment are presented in Tables 2 and 3.

The hormone therapy the level of testosterone in men increased almost twice (from 1.86 0.56 to 3.26 0.44 ng / ml), and the rates of luteinizing hormone have not changed. After the prescription of hormone replacement therapy in 3 months' time the rate of bone mineralization significantly increases (according to the ultrasound and X-ray densitometry and the calculated index of mineral density), the bone porosity decreased. Serum calcium ranged within the statistical error, but after 3 months of hormone therapy, there was a statistically significant reduction in the level of calcium in the urine (0.68 0.12 mg / L 0.1 to 0.23 mg / L), which corresponds with a significant reduction in re-stone formation in this subrgroup 2A by nearly 50% (15.2% compared with 64.7% in the control one).

Conclusions:

1. Urinary tract infection is one of the leading factors of urolithiasis in the population and the most essential in the absence of major diseases of impaired metabolism and anatomical changes of USD in patients up to 55 years with normal levels of sex hormone.
2. Diagnosed among the flora in this group, ureaplasma infection (68%) was found in most cases.
3. The influence of ureaplasma on the process of stone formation is due to:
- Epithalaxia and its role as a matrix for calculus;
- Splitting ureaplasma urea to ammonia, which causes alkalinization of urine osmolality and increasing its lithogenicity;
- Reducing the surface tension of urine;
- The formation of oxalate-phosphate stones;
- The ratio between the oncotic and osmotic pressure in the urine.
4. The treatment of ureaplasma and other pathogenic infections can stop stone formation in the majority (86.0%) of patients with recurrent urolithiasis in the group of patients with normal hormones.
5. Screening for ureaplasma and other specific infections is obligatory in recurrent (discharge of stones more than 2 times) urolithiasis and in the detection of stones in young people without anomalies in the urinary system.
6. Osteoporosis is one of the most essential factors of the repeated formation of stones in patients with hypoandrogenemia
7. The prescription of hormone therapy in patients with osteoporosis contributes to a significant reduction in the recurrence of stones (15.2% compared with 64.7% in the control one) and improve sexual life [5].



IMPROVEMENT IN SEXUAL FUNCTION AND FERTILITY IN PATIENTS WITH EJACULATORY DISORDERS

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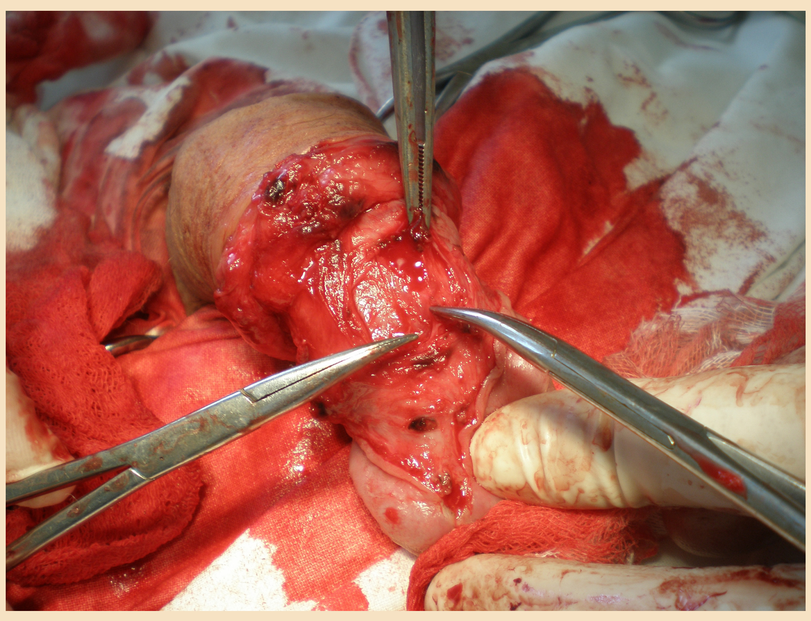
Ejaculatory disorders occupy a place of sexual disharmony couple and are the most common physiological cause of divorce. Among ejaculatory disorders the most common are the syndrome premature ejaculation (SPE), retrograde ejaculation. (ER) and anorgasmia.

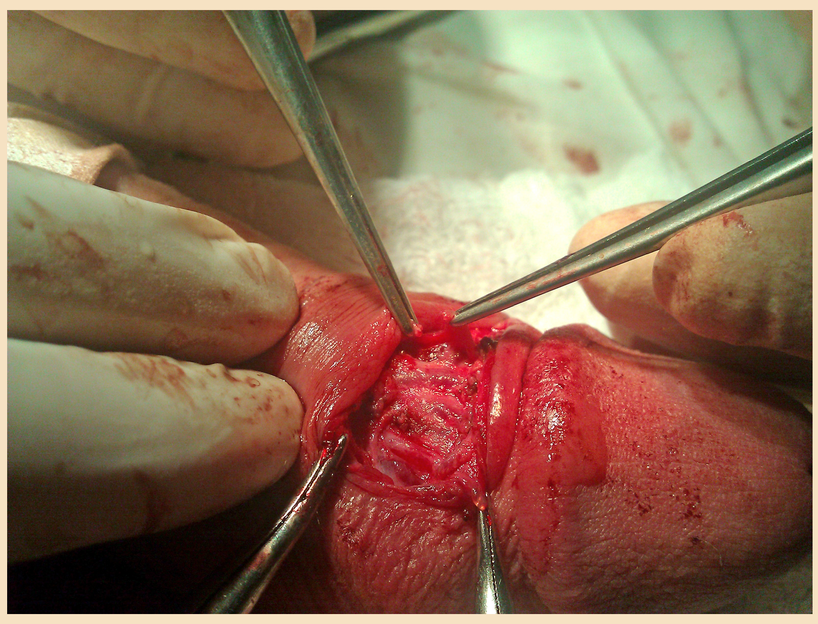
The aim of the study was to develop an algorithm treatment of dizorgazmia and improving sexual function of men with ejaculatory disorders.

MaterialsandMethods: On the basis of the Kharkiv Regional Clinical Center of Urology and Nephrology them. V.I. Shapoval conducted a comprehensive examination and treatment of 253 patients suffering from various forms of ejaculatory disorders.

Results: According to the prevailing factor of SPE was made appropriate treatment groups with the following performance (% of patients satisfied sexual life after treatment):

1. In the presence of infectious and inflammatory diseases (balanitis, prostatitis, vesiculitis) — the treatment of these infections (83%) , including minimally invasive techniques with the use of (91.4 %)
2. Mild SPE without infections and neurological problems — local anesthetic and behavioral therapy (87.6 %).
3. In the presence of autonomic and/or psycho-neurological dysfunction — the use of SSRIs for the period 4—8 months (81.3 %).



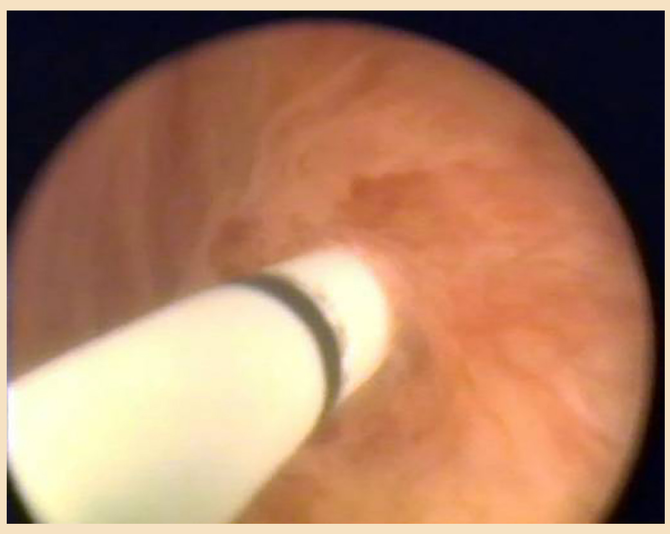


4. With moderate and severe SPE without neurological factors and failure of behavioral therapy underwent surgical treatment (selective and partial dorsal neyrotomiya) (96.2 %). In the treatment of ER patients were divided into 2 groups, depending on the cause of ER (functional or anatomical type). When ER functional genesis adjusted therapy (canceled alfaadrenoblocers, administered midodrine) In patients with organic ER conducted transurethral administration of hyaluronic acid gel in the posterior segments of the prostatic urethra In the group of 9 patients with anorgasmia after radical prostatectomy was performed earlier (within 2 months of operation) endofaloprosthesis with possible early (up to 6 months) the resumption of sexual activity — 77.7% efficiency.

Conclusions:

1. The use of this diagnostic algorithm allows to achieve good results of treatment (81,3—96,2 %) treatment SPE.
2. With moderate and severe SPE (IVLT less than a minute) without neurological factors , we recommend that early surgery (selective neyrotomiya, partial dorsal neyrotomiya, introduction of hyaluronic acid gel under the bridle of the penis) — efficient — 96.2 %.

3. When SPE caused by chronic obstructive prostatovesiculitis is highly effective transurethral catheterization and dilatation of the ejaculatory ducts followed using Collargol 2% solution (91.4 %).



4. In the presence ofretrogradeejaculation functional genesis recommended lifting simpatholitics or sympathomimetic appointment, as well as antidepressants (imipramine) — 76.3% efficiency.

5.In retrograde ejaculation anatomical origin shows the introduction of middle-absorbable gel in the posterior portions of the prostatic urethra — efficiency 83.4%.

6. Early (within 2 months) significantly endofaloprosthesis in 2, 74 times reduces the incidence of anorgasmia after radical prostatectomy.

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