

PREVENTION OF KIDNEY STONE DISEASE

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Abstract. *Kidney stone disease is a chronic disease characterized by the formation of stones (concretions) in the urinary tract: cups, pelvis, often with migration to the ureters, bladder, urethra. In some cases, concretions are initially formed in the bladder as a consequence of infravesical obstruction. Prevention prevents the appearance of formidable complications from the kidneys.*

Keywords: *drinking regime, salt, diet, urolithiasis.*

ПРОФИЛАКТИКА МОЧЕКАМЕННОЙ БОЛЕЗНИ

Аннотация. *Мочекаменная болезнь — хроническое заболевание, характеризующееся образованием камней (конкрементов) в мочевыводящих путях: чашечках, лоханках, нередко с миграцией в мочеточники, мочевой пузырь, уретру. В некоторых случаях конкременты первоначально образуются в мочевом пузыре как следствие инфравезикальной обструкции. Профилактика предотвращает появление грозных осложнений со стороны почек.*

Ключевые слова: *питьевой режим, соль, диета, мочекаменная болезнь.*

INTRODUCTION

This disease develops as a consequence of metabolic disorders in the body due to various reasons, as a result of which stones are formed from the components of urine. The main preventive method is compliance with the drinking regime. To prevent urolithiasis (ICD), you need to drink a lot of water, at least 1.5–2 liters per day (if it is not contraindicated for any reason). For metaphylaxis (prevention of re-formation of stones), it is necessary to consume even more liquid — at least 2 liters per day, if it is not contraindicated for any reason. Drinks that do not cause changes in urine: drinking water, kidney tea, fruit tea, mineral water with a low mineral content. Drinks that should be limited: strong black tea, coffee, citrus fruits and juices from them. In summer, you should drink so much that you never feel thirsty. In the absence of stones or in the presence of the smallest crystals (microliths) detected by ultrasound, it is advisable to resort to "water shocks". They consist in simultaneously taking 0.5–1.0 liters of liquid on an empty stomach (fresh beer, decoction of dried fruits, tea with milk, slightly mineralized mineral water), or eating an appropriate amount of watermelon. All this gives a pronounced diuretic effect and, as it were, washes the renal cavity system. For people who do not have contraindications to such a procedure, it is advisable to repeat it regularly once every 7 to 10 days. People with various concomitant diseases, in which this procedure is undesirable, can replace it with a decoction of diuretic herbs. Lifestyle changes, increased physical activity, try to avoid excessive fluid loss (sauna, prolonged exposure to the sun and excessive exercise), which leads to concentration of urine. If it is not possible to avoid a large loss of fluid, then it is necessary at least in time to correct these losses with additional drinking (it is a very good habit

to always take a bottle of drinking water with you). Stress reduction, sleep of sufficient duration. Maintaining a normal body weight. It has long been proven that ICD occurs more often in overweight and obese people. To determine the normal body weight, the body mass index (BMI) is used, which is ideally applicable in adult patients aged 25 to 65 years. BMI is calculated as follows: body weight in kilograms is divided by height, measured in meters, squared (kg/m²).

MATERIALS AND METHODS

Speaking about the prevention of urolithiasis, one should pay more attention to the concomitant infectious and inflammatory processes in the urinary tract, remembering that they are most often caused by pyelonephritis, which tends to be latent (asymptomatic) for a long time. Infection in the urinary tract with urolithiasis occurs, according to some authors, up to 50% of cases, including sexually transmitted infections. It is necessary to properly organize life, work and rest, avoid overwork and hypothermia of the body, monitor the normal sleep regime, normal bowel function, avoid stress. It is very useful to include rosehip infusions, cranberry fruit drinks, cranberries, birch juice, watermelons in the diet. In the off-season, remember about folk diuretics. The most widely used in our latitudes are: rosehip, corn stigmas, dill and parsley seeds, birch buds, horsetail grass, birch leaves, bearberry, black radish juice, etc. Decoctions or infusions are prepared from them: take a tablespoon of grass or leaves, pour a glass of boiling water, insist in a warm place for 12-15 hours, filter through gauze and drink a tablespoon 3-4 times a day 20-30 minutes before meals.

RESULTS

Considering that the formation of calcium oxalate stones is a multifactorial process, an increase in diuresis during the day is the most important metaphylactic measure. This is especially important for patients in whom urine testing has not revealed any metabolic disorders. Dilution of urine and a decrease in the concentration of salts in it provides diuresis of about 2 — 2.5 liters of urine per day. Depending on the intensity of physical activity and ambient temperature, the amount of liquid consumed should vary between 2 — 2.5 liters. This amount of liquid should be distributed evenly throughout the day. It is a very good habit to consume an additional amount of fluid before each act of urination. It is very important to consume an additional amount of fluid before going to bed in order to avoid high concentration of urine during the sleep period. Alkaline drinks are more preferable because they increase the pH of urine and the excretion of citric acid. Mineral water rich in bicarbonate ion and moderate calcium content of at least 1500 mg/l is suitable for this purpose.; maximum 200 mg of calcium/l. The following products are recommended:

- meat, poultry, fish in any processing, including in the form of snacks, soups and sauces;
- eggs in any preparation (1 time per day);
- fats: butter and vegetable oil, lard;
- cereals in any preparation, but without milk;
- bread, flour products in any form;
- vegetables: green peas, pumpkin;
- mushrooms;
- sour varieties of apples, cranberries, cranberries, compotes, jelly and fruit drinks on them;
- honey, sugar, confectionery;
- weak tea and coffee (without milk), a decoction of rosehip.

Exclude or restrict:

- smoked meats, pickles;
- milk, fermented milk products: cottage cheese, cheese, sweet dishes with milk and cream;
- meat and cooking fats;
- muffin products;
- potatoes and vegetables, except those mentioned above; vegetable salads, vinaigrettes, canned vegetables;
- spices, fruit, berry and vegetable juices

DISCUSSION

Diet for cystine stones. Reducing cystine excretion by dieting low in protein and sodium. Given that cystine is formed during methionine metabolism, a diet low in this amino acid will be effective. Unfortunately, such a diet significantly reduces the quality of life due to a poor diet of products. It is better for patients suffering from cystinuria to adhere to a well-balanced diet with a low protein content not exceeding 0.8 g of protein per 1 kg of body weight per day. Children should be given one or two meat and one fish dish per week. Cystine excretion increases with high salt intake, so its consumption should be limited. Fast food, canned food, semi-finished products contain a large amount of salt and should be avoided. An equally important component in the prevention of urolithiasis is sanatorium treatment. Spa treatment is indicated both in the stone-free period, after surgery to remove stones (including various types of lithotripsy) or their independent withdrawal, and in the presence of chronic inflammatory diseases of the genitourinary system during clinical and laboratory remission, in the absence of renal failure.

CONCLUSIONS

Treatment is permissible in the presence of small (up to 5-6 mm) stones in the kidneys or urinary tract, if the size and shape, as well as the condition of the urinary tract, allows us to hope for their independent discharge under the influence of the diuretic effect of mineral waters. Spa treatment restores impaired mineral metabolism, stops the precipitation of salts from urine into sediment, has a diuretic, uroseptic effect.

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