

**Introduction:** Diverticular disease is one of the most prevalent medical conditions that affect Western populations. Symptomatic diverticula can lead to serious complications requiring both medical and surgical interventions to treat these complications when they occur. Imaging is used to establish the diagnosis and its extent and severity, and to detect the presence of any complications so that management can be directed appropriately. The most widely used examinations for the diagnosis of diverticulitis are barium enema, ultra-sound, and computed tomography. Goals of therapy should focus on alleviating symptoms in symptomatic disease and preventing recurrence and complications. The indications for emergency operative treatment include generalized peritonitis, uncontrolled sepsis, uncontained visceral perforation, the presence of a large abscess, and lack of improvement or deterioration within 3 days of medical management. Complications of chronic diverticulitis, including fistulas, strictures or stenosis, and most cases of colonic obstruction, are also treated surgically.

**The aim:** To elaborate an algorithm of diagnostic and treatment in diverticular disease of the colon (DDC). To establish the efficiency of operative techniques in surgical treatment.

**Material and methods:** 27 patients (14 males and 13 females), average age  $65,2 \pm 10,9$ , diagnosed with diverticular disease of the colon were included in the research. Depending on presence of complications, therapeutic or operative treatment was used.

**Results:** Age, obesity and lifestyle are the most important factors in pathogenesis of diverticular disease of the colon. It was noted an increased incidence of DDC and its complications in age decades 50-60 and 61-70. It was proposed to include in the mandatory set of methods for diagnostic of DDC barium enema (95% of sensibility), colonoscopy (84% of sensibility), as well as ultrasound and computed tomography as additional methods for identification of complications. In 10 patients (37%) was used therapeutic treatment and 17 patients (63%) required surgical intervention, the most frequent being sigmoid resection (34%). Complications after operation were registered in 4 patients (23%).

**Key words:** diverticular disease of the colon, therapeutic treatment, operative treatment, sigmoid resection.

## RELATIONSHIP OF LITHOGENESIS AND OXIDATIVE DAMAGE IN EXPERIMENTAL NEPHROLITHIASIS

Motin Y., Zharikov A.

Altai State Medical University, Barnaul, Russian Federation

**Introduction:** Modern literature indicates that tissue damage in the kidneys is an important factor in the formation of urinary stones. It is recognized that the deposits of calcium salts are capable of inducing tissue reactions in the epithelium of the distal tubules and collecting tubules, particularly activating the process of free radical oxidation.

**Material and Methods:** The morphological study of 60 rat kidneys with experimental oxalate nephrolithiasis was conducted. To identify the calcium deposited, silver impregnation by von Kossa's method was used. Using immunohistochemistry, the expression of the severity indices of oxidative damage (malondialdehyde – MDA) and antioxidant defenses (mitochondrial superoxide dismutase – SOD-2) were determined.

**Results:** After 3 weeks of the nephrolithiasis modeling in the epithelium of the collecting tubules, in the interstitium of the medulla substance, in the lumen of collecting tubules numerous calcium deposits were found (mean  $21,4 \pm 3,40$  in the field of view). The average size of the deposits was observed to be

16.5±0.60 mm. In 10% relatively large microlites (up to 30-35 µm) were found with obturation of the lumen of the collecting tubules. Noted decreased expression (1+) of SOD-2 in epitheliocytes. The weakening expression of the antioxidant enzyme was accompanied by a statistically significant elevation of lipid peroxidation products (2+). With using of α-tocopherol in the experiment, a much smaller intensity of histopathological kidney restructuring was determined. The moderate amount (up to 17.6±2.39 in the field of view) of calcium compounds were small, averaging 5.40±0.28 mm in size. Large compounds of calcium, obturation clearance tubules and collecting tubules, or inlays their epithelium were not detected. Immunohistochemical study of the rat kidney during treatment with α-tocopherol showed moderate (2+) expression of the SOD-2 in epitheliocytes of the collecting tubules, comparable to the intact group and significantly (12.5%) higher than in animals with an experimental model oxalate nephrolithiasis. The intensity of the expression of MDA was similar to that in the intact group and significantly lower in animals with the experimental oxalate nephrolithiasis.

**Conclusion:** During the simulation of the experimental oxalate nephrolithiasis in the rat kidney, marked morphological signs of oxidative damage activation in the tissues and cells and a weakening of the enzymatic antioxidant defense system, accompanied by an acceleration lithogenesis were noted. The usage of antioxidants has beneficial effects on the renal morphologic reorganization, as it reduces the degree of oxidative damage to the cells and tissues, while it helps to reduce the number and size of the calcium deposits formed.

**Key words:** nephrolithiasis, free radical oxidation.

## EXTRACORPOREAL SHOCK WAVE LITHOTRIPSY (ESWL) – EXPERIENCE OF THE DEPARTMENT OF UROLOGY REPUBLICAN CLINICAL HOSPITAL

**Brad A.**

*Academic adviser:* Ceban E., M.D., Ph.D., Associate Professor, State Medical and Pharmaceutical University “Nicolae Testemițanu”, Chisinau, Republic of Moldova

**Introduction:** In present days, in Republic of Moldova, extracorporeal shock wave lithotripsy (ESWL) is a usual form of treatment for renoureteral lithiasis. The purpose of this work is to evaluate the results after treatment of urolithiasis with extracorporeal shock wave lithotripsy in our clinic.

**Material and Methods:** During August 2011 – December 2011, a number of 190 patients were treated by ESWL for renoureteral lithiasis and a number of 243 treatment procedures were performed. The device we have is a second generation MODULITH® SLK lithotripter, with radiological and ultrasonographic localization system. In a number of 115 patients the localization of calculi was renal (60,52%), in 75 cases (39,47%) was ureteral localization.

**Results:** In a number of 120 patients (63,15%) ESWL was the single method used for therapy. A number of associated methods of treatment (percutaneous nephrostomy, ureteral catheter,) was necessary for 25 patients (13,15%). ESWL was made in 10 patients with a single kidney (5,26%). 40 (21,05%) patients were necessary two treatments, with in 3 (1,57%) patients three treatments or more were used. Severe complications occurred in 11 % cases (sepsis, anuria, perirenal hematoma, steinstrasse, etc.)

### Conclusions:

1. ESWL is a very common method of treatment of renoureteral lithiasis and indication of primary treatment is about 70%.

2. Associated methods (percutaneous nephrostomy, autostatic ureteral catheter, etc) were necessary