Uretrorenoscopy laser lithotripsy treatment of stones impacted in the left ureter 10 years after right kidney autotransplantation

Uretrorenoskopska laserska litotripsija u leđenju kamenova impaktiranih u levom ureteru deset godina nakon autotransplantacije desnog bubrega

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Abstract

Introduction. Urinary tract calculosis is a very common condition in general population. It appears in 5–10% of population, and can be managed conservatively or by minimally invasive, endoscopic and surgical procedures or extracorporeal shock wave lithotripsy. Lesions of the ureter can be resolved by JJ stent insertion, end-to-end anastomosis, ureterocystoneostomy, percutaneous nephrostomy, nephrectomy, intestinal graft interposition or kidney autotransplantation. Case report. We presented surgical treatment and outcome in a female patient, with a large defect of the right ureter due to impacted stone treatment, following a successful autotransplantation of the right kidney. Ten years later a stone impacted in the left ureter was successfully treated by ureterorenoscopy and laser lithotripsy. Asynchronously combined kidney autotransplantation and ureterorenoscopic lithotripsy preserved kidney function. Conclusion. Bilateral organs preservation should be considered even in the absence of malignancy, especially in younger population.

Key words: ureterolithiasis; lithotripsy, laser; transplantation, autologous; kidney.

Introduction

Urinary tract calculosis appears in 5–10% of general population and can be managed conservatively, by Extracorporeal shock wave lithotripsy (ESWL), ureterorenoscopic lithotripsy, open or laparoscopic surgery, as well as by percutaneous nephrolithotripsy 1. Lesions of the ureter account for 1% of all urinary tract lesions. Most often they are iatrogenic, caused by gynaecological interventions, abdominal surgery and urological treatment – open surgery or ureterorenoscopy 2. Large defects of the ureter may be treated surgically, performing transureteroureterostomy, the psoas hitch method, Boari flap, nephrectomy, renal autotransplantation or with intestinal tract graft interpositions 2.

Case report

A 47-year-old female patient experienced renal colic type pain on the right side accompanied by a high-grade fever in June 1999. Diagnostic procedures and treatment were initiated in the United States and showed the presence of a suppurative pyelonephritis accompanied by II degree hydronephrosis and right-sided ureterolithiasis. Antibiotics were administered and a JJ stent inserted into the right ureter.
One month later the patient was hospitalised at our institution because of urosepsis and pyelonephritis of the right kidney. Sonography of the kidney showed II/III degrees ureterohydronephrosis on the right side. The findings of the left kidney were without any peculiarities. A kidney, ureter and bladder (KUB) radiography revealed that the superior end of the JJ stent lied outside the ureter. Antibiotic treatment was initiated and the JJ stent removed. A percutaneous nephrostomy catheter was inserted into the renal pelvis of the right kidney. In the vicinity of the lateral process of the L4, a knee bend in the ureter with a funnel-like taper was observed that was impassable for the contrast media (Figure 1). The patient was operated on 5 September 1999 when periuretral fibrosis was found with complete occlusion of the lumen of the right ureter, running 15 cm from the ureteropelvic junction to the vicinity of the iliac blood vessels. An autotransplantation of the right kidney was performed into the right iliac fossa. A control sonogram was performed on the day 4 following the operation and it showed no hydronephrosis or calculosis of the autotransplanted kidney. On the postoperative day 16 the patient was discharged home, afebrile, with normal laboratory test results and proper depuration.

In December 2009, the patient reported to the urologist for renal colic type pain on the left side. Renal sonography revealed III degree hydronephrosis of the left kidney. A stone measuring 12 × 6 mm was observed below the left ureteropelvic junction. Intravenous urography showed the right autotransplanted kidney in the pelvis minor, excreting in a timely fashion and proper concentrations, without hydronephrosis. Hydronephrosis was seen on the left kidney and the left ureter did not appear (Figure 2). The patient under-
Discussion

Large defects of the ureter may be treated surgically by interposing the small intestine. This surgical method is accompanied by a number of complications: frequent urinary infections, improper renal function, electrolyte disorders and intestinal obstruction. In cases when anatomical and technical considerations do not allow the use of an intestinal segment or other method for replacing the missing part of the ureter, renal autotransplantation may be the method of choice. This is of a particular significance among patients with the anatomically or functionally solitary kidney. In the presented patient ureterocystoneostomy was not possible due to the size of the defect of the ureter, nor was possible to obtain a long enough graft of the bladder. Studies have shown excellent results and 93% preservation of the function of the autotransplanted kidney. Thrombosis of renal blood vessels of autotransplanted kidneys is the most serious complication that appears in 0.5–4% of cases. Ten years after autotransplantation, patient had laser ureterorenoscopic lithotripsy on the other kidney.

Conclusion

Kidney preservation is indicated whenever it is possible, even in the absence of malignancy.

REFERENCES


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