

*Abstract ID*  
*Number:* **BALTIC16-0023**

*New Number:* **76**

*Abstract Title:* **Endoscopic methods of diagnosis and treatment of iatrogenic ureteric injuries**

*Authors:* **A. Rahuzin<sup>1</sup>, A. Strotsky<sup>1</sup>, V. Bartoshik<sup>2</sup>, K. Obrazkov<sup>3</sup>**

**(1) Belarusian State Medical University, Dept. of Urology, Minsk, Belarus, (2) 4th City Clinic of Minsk, Dept. of Endourology, Minsk, Belarus, (3) 4th City Clinic of Minsk, Dept. of Urology, Minsk, Belarus**

*Body:*

## **Introduction & Objectives**

The ureters are the most frequently injured during obstetric and gynecological operations, next respectively are oncology, urology, vascular surgeries. Hysterectomy accounts for most of these cases. One of the major problems with injuries of the ureter is a timely diagnosis, because it depends on the nature of the subsequent surgical treatment. Unrecognized ureteral injury can cause prolonged postoperative morbidity leading to fistula formation, sepsis, or renal functional loss.

The purpose of our research is to determine the role of endoscopic methods of examination and treatment of the patients with ureteral injuries, as well as to determine the most optimal time in which endoscopic techniques are most effective.

## **Material & Methods**

The records and details of ureteric injuries treated between 2009 and 2013 in the 4<sup>th</sup> city clinic of Minsk were analyzed. We treated 19 patients (14 women, 2 men; age 19-64) with verified iatrogenic ureteral injuries. We examine the cause, localization, and the time of diagnoses of the ureteral trauma after the primary surgery. We divided our patients in three groups according to the time of diagnosed trauma: 1-3 days; 4-30 days; more than 30 days. We specially examined all the cases in which the injury was diagnosed in the period 5-30 days after the primary surgery. First line of instrumental diagnoses and treatment in all patients was URS with retrograde ureteropyelography and J-J stenting. If this way was impossible we drain the kidney with percutaneous nephrostomy.

## **Results**

The largest share of iatrogenic damage came in the obstetric and gynecological surgery (16; 84%). At the first stage in (10; 52%) cases urinary diversion was performed by internal ureteral stenting, and in (9; 48%) - by percutaneous nephrostomy. The most frequently injured left ureter in the distal third - 16 of 19 cases. In (14; 74%) of patients ureteral injury found in the period from 4 to 30 days after the primary operation. (8; 57%) of patients of period 4-30 days were DJ stented and (6; 43%) patients undergo puncture nephrostomy.

Only three patients (group 4-30 days) needed open reconstructive surgery later, the rest of patients recover due to only ureteral stenting. Patients of 1-3 days group successfully undergo primary reconstructive surgery. Patient of (more than 30 days) group in all cases undergo nephrostomy and later pass through the reconstructive surgery. Time of internal ureteral stent standing was minimum 6 weeks and maximum 3 months.

## **Conclusions**

URS with retrograde ureteropyelography is the first stage of treatment in period of 4-30 days after iatrogenic ureteral injury. In terms of 4-30 days after the primary operation – URS effectively helps to put double J stent in a right way and also helps to evaluate the zone of traumatic changes (the level and extent of the ureter damage; the presence, distribution, character, size of urinary extravasation).