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**Introduction & Objectives:** To evaluate the results and influence of new classification (The Paris System for Reporting Urinary Cytology, 2016) on non-invasive urothelial carcinoma (UC) detection.

**Materials & Methods:** A retrospective review of urine cytology reported from 1/2017 to 12/2017 was performed – 629 cases of urine cytology (from 267 patients) were found. The urine cytology („cytological diagnosis”) was carried out with histological/radiological/cystoscopy correlation („final diagnosis”), wherever available. The patients with no biopsy/imaging examination/cystoscopy were excluded from the study (because there was no possibility to verify the final diagnosis). Finally, 480 cytological specimens from 208 patients were evaluated. The specimens were divided in 230 complex cytological examinations – according to timeline.

**Results:** Overall sensitivity of urine cytology in UC detection was 47.5% (specificity 92.3%). Sensitivity selective in detection of high-grade UC achieved 73% (specificity 87.1%). In low-grade UC, the sensitivity achieved 32.1%, with specificity 100%. The significant difference in sensitivity was observed between patients with three and more in one timeline collected cytological specimens and patients with only one specimen (in highgrade UC was the sensitivity 92.9% for patients with three and more cytology, compared to 60% for patients with only one specimen). The category of atypical urothelial cells (AUC) occurred with a frequency of 1.3% - UC was detected in all AUC cases subsequently.

**Conclusions:** The majority of low-grade UCs is evaluated as negative in the Paris system. Many in urine detected low-grade UCs are classified as suspect for high-grade UC (SHGUC). The category of AUC should raise the suspicion for presence of UC every time. We recommend three urine collections for cytological evaluation to be provided on subsequent days in all patients.