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**Introduction & Objectives:** The increased risk of renal calculi in patients with solitary kidney assumes a closer, periodic, imagistic evaluation. Renal colic combined with anuria is one of the most important urologic urgency and needs prompt intervention. The aim of this study is to evaluate primarily ureteroscopy as definitive treatment for ureteral stone in patients with solitary kidney.

**Materials & Methods:** From 15 January to 20 December 2018, we retrospectively analyzed 19 patients with solitary kidney who were treated with ureteroscopy as first line treatment for ureteral stones at Prof. Dr. Th. Burghel Clinical Hospital, Bucharest. All patients were imagistic evaluated with renal ultrasound and KUB and were assessed with standard blood and urine tests. Cases with associated fever were excluded. We used 8 and 10 Fr semirigid ureteroscope and lithoclast for fragmentation.

**Results:** This study included 19 cases, 11 men and 8 female with a mean age of 44,37 years. All of them presented flank pain and oligo-anuria as major symptoms and in 11 cases they had nausea and vomiting associated. 16 patients were registered with solitary kidney after nephrectomy (14 lithiasic cause and 2 for renal tumour) and 3 patients with single functional kidney. Mean serum creatinine at presentation was 2,61 (1,8-4,1) and mean estimated stone length was 5,58 mm. Stones location was: pelvic-15(78,94%), lumbar-3(15,78%), ureteropelvic junction 1(5,26%). The success rate for complete extraction was 94,73% and in 1 case retrograde push back was preferred. All cases were stented with Double J stent for 3 weeks. Serum creatinine came to normal values after 2,58 days in 15 cases and in 4 cases with chronic renal disease at around the usual value.

**Conclusions:** Acute renal failure by obstructive cause in patients with solitary kidney represents one of the most important urological urgencies. Ureteroscopy as first line treatment, in selected cases could be an alternative for two step procedure.