

P105 Endourological management (URS) of stones in solitary kidney – A systematic review from European Association of Urologists (EAU) Young Academic Urologists (YAU) and Uro-Technology (ESUT) groups

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Introduction & Objectives: Urolithiasis in the solitary kidney(SK) presents significant management dilemma as any insult to the kidney or its drainage can lead to significant morbidity. The treatment options includes SWL, PCNL and URS. Our aim was to conduct a systematic review of literature on all available endourological techniques reporting on stones in a solitary kidney starting from ureteroscopy.

Materials & Methods: We conducted a systematic review according to Cochrane and PRISMA checklist for all English-language articles from inception to December 2018. All studies with a minimum of 10 patients that reported on endourological management with ureteroscopy (URS) were included. Data was extracted for patient and stone demographics, outcomes including adverse events and renal function.

Results: A total of 15 studies (792 patients) reported on the outcomes of URS in solitary kidneys. Across studies, the mean stone size ranged from 10-28 mm with a mean operative time of 25-117 min and a mean hospital stay of 0-5 days. The mean initial and final SFR ranged from 20-100% and 43-100% respectively. An ancillary procedure was mentioned in 9 studies of which URS was done in 114 (80%) patients, SWL in 26 (18.5%) patients and PCNL in 2 (1.5%) patients, and the mean number of procedures to achieve a stone free status across studies was 1.23. Renal function pre and post procedure was unchanged in 8 studies, better in 2 studies, worse in one study and unreported in 4 studies.

The overall complication rate was 15.0% (n=119) of which most were Clavien I (9.6%) and Clavien II (3.4%) complications (Table)

Procedure	Type of complication	Frequency (n)	Clavien Grade	%
URS (119/792, 15%)	Fever	47	I	9.6
	Transient creatinine rise	21		
	Pain	5		
	Haematuria	3		

UTI	23		
Retention	2		
Transfusion	1	II	3.4
Subscapsular haematoma	1		
Ureteral Perforation	1	III	1.5
Hydronephrosis	1		
Steinstrasse	10	IIIa	
Septic shock	4	IV	0.5

Conclusions: The outcomes from our review shows that there has been a rise of endourological techniques in the management of stones in solitary kidney. Ureteroscopy is safe and effective in this cohort of patients. However, selected intervention needs to be balanced with the safety profile and the need for ancillary procedures.