677 Percutaneous nephrolithotomy in the transplant kidney - a prospective 20 year multicentre experience

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Introduction & Objectives: Percutaneous nephrolithotomy (PCNL) in transplanted kidneys presents unique endourological challenges. By pooling the collective experience of three centres, each combining high volume transplant and high volume endourology practices, we aim to accurately and reliably demonstrate the safety and feasibility of this technique.

Materials & Methods: Prospective data from 3 high volume centres in 2 healthcare systems were combined for analysis, regarding patient, stone, technique and outcomes. Data were collected from 1998-2018; 17 transplant PCNLs were recorded.

Results: All patients were operated in a form of supine position (5 patients underwent surgery in a modified Valdivia position, 10 standard supine and 2 lithotomy). 7 procedures were performed on left iliac fossatransplants and 10 in right iliac fossa transplants. 5 stones were located in the renal pelvis, 3 at the pelviureteric junction, 2 in the pelvis and proximal ureter, 3 in the ureter, 2 lower pole, 1 upper pole, 1 interpolar. Puncture was made with ultrasound alone in 5cases, 2 used fluoroscopy and a combination was used in 10. 7 punctures were into lower pole, 3 upper pole, 3 interpolar, 1 inter- and upper pole and 1 not recorded. 6 cases used a combined approach with ureteroscopy. 3 were planned as staged procedures. Fragmentation was by Swiss lithoclast™ in 7 cases, LASER in 5 and 5 were ‘lift-out’. All patients had nephrostomies post-op; 3 had stents.

N =	17
Male (%)	11 (61)
Median age (range)	51 (36-74)
Median BMI (range)	27.4 (20.0-38.0)
Median CCI (range)	4.5 (2-7)
Median stone size, mm (range)	16 (7-60)
Median procedure time, min (range)	65 (30-120)
Median fluoroscopy time, min (range)	84 (3.1-372)
Stone clearance (%)	14 (82)
Complications (Clavien I-V)	1 (Clavien IIIa)
Transfusion (%)	0

Conclusions: In our collective experience, PCNL is a safe and effective technique in treating nephrolithiasis in transplant kidneys; stone clearance and complication rates compare favourably with contemporary ‘native’ renal PCNL data. Combination with endoscopic retrograde intrarenal surgery(ECIRS)is preferable and avoids multiple punctures of the renal allograft. Supine PCNL both enables ease of access for ECIRS and the iliac fossa kidney. In our experience, patients benefit from surgical care within high volume centres with dedicated transplant and endourological expertise.