

PP-006

The era of tubeless percutaneous nephrolithotomy

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Objective: To prescribe our experience in performing tubeless percutaneous nephrolithotomy (TPNL) and how we extent its indication, safety and effectiveness.

Methods: Two hundred and fifty three patients with renal stones were enrolled for TPNL with externalized ureteric catheter. The age of them was 4-80 years old, 168 were males and 85 were females and stone size was 15-80 mm and at different sites of pelvicalceal system. Most of them were done on prone position while 24 in supine one. Punctures were mostly single while double punctures were done in twenty while three punctures were done in two patients. 40 patients have history of previous ipsilateral renal surgery, 20 patients with renal impairment and 15 had solitary kidney.

Results: Mean operative time was 44.34 minutes while mean stent time was 1.1 day and mean hospital stay was 1.6 day. The mean drop in Hb level was 1.67gm/dl with 3.95% needed blood transfusion and postoperative analgesia was needed in 12.65%. Stone free rate was 91.76% while the overall success rate was 97.25%. Complications were encountered in 7.9% which were mostly minor and managed conservatively apart from colonic injury in one and hydrothorax in two patients.

Conclusions: It's the era of tubeless percutaneous nephrolithotomy. TPNL should be extended to include big stone, multiple numbers, multiple punctures, prone or supine position, sub or supracostal approach, recurrent cases, solitary kidney, renal impairment, extended time and bilateral simultaneous cases. It's safe and effective with decrease postoperative pain, analgesia, and hospital stay.

As published in the *Supplement of AFJU, Volume 18 (2012), 1st ESD "Experts in Stone Disease" Conference (page 23)*