Zachary A. Valley, Kamaljot S. Kaler
Section of Urology, Department of Surgery, University of Calgary, Calgary, AB, Canada

COMMENTARY

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Ambulatory, tubeless PCNL is a viable option in 10–25 mm stones

Ambulatory, tubeless percutaneous nephrolithotomy (PCNL) has emerged as a safe and effective option in the treatment of nephrolithiasis ≤2–3 cm.[1-4] Additionally, the use of mini-PCNL has been shown to increase the likelihood of tubeless discharge compared to standard PCNL.[5]

In this issue of *CUAJ*, Nikoufar et al share their experience with ambulatory, completely tubeless, mini-PCNL in the management of 10–25 mm renal stones. They conclude that it is a safe procedure and recommend that most complications can be treated conservatively.[6]

It is worth noting that in this study, 52.6% of cases had stones in the lower pole and the mean stone size was 16 mm. At our institution, we prefer to treat lower pole stones up to 10–13 mm with ureteroscopy due to decreased operative time, although mini-PCNL (or standard PCNL) are also viable options for these stones, as clearly exhibited here.

We commend the authors for their use of a three-month computed tomography (CT) scan to reassess residual stones, which resulted in a large improvement in their patients' stone-free rate (SFR). One can infer from this robust data (rarely described in the literature) that treaters could expect an improvement in SFR as small fragments pass in the first few weeks/months post-surgery.

We previously described an immediate stone-free status of 68% on postoperative day (POD) 0 CT for all comers in outpatient PCNL with a mean preoperative stone size of 33 mm;[7] however, we only performed an ultrasound (US) at three months to rule out silent hydronephrosis. One must question whether, going forward, a three-month CT is necessary. In the era of ultra-low-dose CT, this option can provide valuable information that an US alone or in combination with X-ray just can't provide.

We further commend the authors for their use of digital telemedicine to better communicate with their patients following discharge. The use of this system and the availability of the urology team to provide phone calls to patients experiencing minor complications allowed providers to quell any concerns remotely and decrease the unnecessary use of emergency services, while simultaneously capturing more robust results.

The study is not without limitations, however, the most notable being the lack of a control group. Additionally, the study was conducted by a single surgeon with extensive experience with mini-PCNL, which may produce results that are difficult to reproduce. Finally, we question why the authors decided to conduct CT scans at POD 1 rather than POD 0 to assess stone-free status. We believe it would have been more convenient to perform the scans while the patient was still in-hospital.

Overall, this study is a valuable addition to the growing body of evidence for the use of tubeless, ambulatory PCNL and highlights mini-PCNL as a viable option to improve outcomes. Benefits include reduced in-hospital stay and lower healthcare costs without significant increases in complications. In our experience, with a cohort of 300 patients, we found ambulatory PCNL significantly reduced hospital costs by $1159 per patient compared to standard PCNL, without any significant differences in postoperative complications or hospital readmissions.[7]

We believe all PCNLs can be done in the ambulatory setting no matter the stone size, location, or comorbidities, provided there is adequate preoperative planning. The study conducted by Nikoufar et al is an excellent example of this. Adoption of this framework will allow for the reduction of unnecessary healthcare use and costs.

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CORRESPONDENCE: Dr. Kamaljot S. Kaler, Section of Urology, Department of Surgery, University of Calgary, Calgary, AB, Canada; kamaljot.kaler@ucalgary.ca