

STONES

PCNL and staghorn kidney stones

Staghorn kidney stones can be difficult to manage, owing to their size and complexity. Patients may require multiple procedures, especially for bilateral stones. Two new papers show that percutaneous nephrolithotomy (PCNL)—the standard of care for large and/or complex renal calculi—is safe and effective in elderly patients with staghorn stones, and that a ‘tubeless’ PCNL technique can be used to simultaneously remove stones of this type in one sitting with minimal complications.

Chung-Jing Wang and colleagues from Saint Martin De Porres Hospital, Taiwan, performed a randomized controlled study to assess the feasibility of simultaneous bilateral tubeless PCNL for staghorn kidney stones. The researchers enrolled 99 patients. They were randomly assigned to receive either staged (49 patients) or simultaneous bilateral (50 patients) tubeless PCNL.

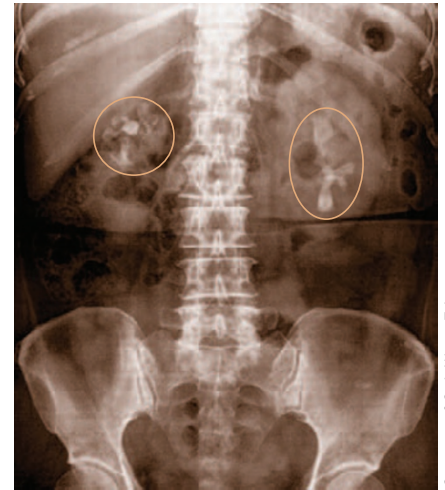
No differences in stone-free rate, kidney function or complications were observed between the two groups. Crucially, length of hospital stay, postoperative pain, analgesic requirements, convalescence period and hospital costs were reduced in the simultaneous bilateral PCNL group.

“Simultaneous bilateral tubeless PCNL can treat bilateral renal staghorn stones

effectively and safely,” says Wang, who adds that a key benefit of this approach is minimization of bleeding-related morbidity and mortality—major concerns during renal surgery. He also notes that the procedure is beneficial from an economic perspective because patients do not require repeat sessions and hospital costs are therefore decreased.

For the second study, Baris Kuzgunbay (Baskent University, Turkey) and colleagues retrospectively analyzed outcomes data collected between 2002 and 2010. The cohort comprised patients with staghorn kidney stones aged ≥ 65 years ($n = 45$) compared with a young (aged 18–36 years) control group ($n = 37$). “Endourologists had some doubts about performing PCNL for staghorn kidney stones in elderly patients since they usually have comorbid diseases that negatively affect the performance, outcomes and complication rate of the operation,” he explains.

No differences in surgical parameters, complication rates or patient outcomes between the two groups were detected. Moreover, success of the operation was unaffected by the presence of comorbid disease—73% of elderly patients



Courtesy of C. J. Wang, Taiwan

had at least one comorbidity, such as hypertension, coronary artery disease or diabetes (compared with none of the control group)—or previous ipsilateral renal surgery. Kuzgunbay now plans to investigate the use of minimally-invasive tubeless PCNL in elderly patients.

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Original articles Wang, C. J. *et al.* Simultaneous bilateral tubeless percutaneous nephrolithotomy of staghorn stones: a prospective randomized controlled study. *Urol Res.* doi:10.1007/s00240-010-0342-x | Kuzgunbay, B. *et al.* Percutaneous nephrolithotomy for staghorn kidney stones in elderly patients. *Int. Urol. Nephrol.* doi:10.1007/s11255-010-9885-6