



Invited Commentary

An invited commentary on “Day care surgery versus inpatient percutaneous nephrolithotomy: A systematic review and meta-analysis” [Int. J. Surg. (2020); Epub ahead of print]


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Dear Editor,

We read with interest Gao et al.'s systematic review and meta-analysis which evaluated the safety and efficacy of day case (discharge within 24 hours) versus inpatient percutaneous nephrolithotomy (PCNL) [1,2]. This is of particular interest as patients are traditionally advised they will be in hospital for two to five days after a PCNL [3]. Shorter stays in hospital are financially beneficial and are clearly preferable in the COVID era providing safety is not compromised.

Gao et al.'s systematic review identified six studies, including one randomised controlled study (RCT), one prospective cohort and four retrospective studies yielding 679 patients in the final analysis [1]. 30Fr PCNL was used in four studies and mini-PCNL (14-22Fr) was used in two studies. The day case patients in the RCT underwent 'tubeless' PCNL, whereas the inpatient group were left with a nephrostomy after PCNL. The review did not specifically look at the number, size, morphology or position of the stones being treated. Primary outcomes included peri-operative complication rates and unplanned readmission rates. Secondary outcomes included operative time, length of stay and stone free rate. The analysis found day case PCNL was associated with a significantly lower overall complication rate. No significant difference was found in the readmission rate between the two groups (OR- 1.73, 95% CI, 0.67 to 4.50, $P = 0.26$). There was no significant difference in stone free rates though the studies used heterogeneous definitions of 'stone free'. Day case PCNL was, as would be expected, associated with a significantly shorter length of hospital stay [1].

The authors' findings are encouraging and suggest that day case PCNL is entirely feasible in correctly selected patients. The key questions for future practice concern patient selection. The criteria for day case PCNL suggested by the authors are mostly patient rather than stone factors (i.e. adequate family support, controllable urinary tract infection, normal renal function, no complex medical history and a body mass index of less than 30 [1]). It was noted that previous research recommended an upper limit of 2cm for day case PCNL but based on their

analysis, the authors suggest that stones up to 3cm in diameter can be treated as day cases [1,4].

Increasing miniaturization of the PCNL tract may also allow more patients to be treated as day cases which will hopefully be beneficial for healthcare delivery systems and patients alike.

Provenance and peer review

Invited Commentary, internally reviewed.

Declaration of competing interest

The authors have no relevant conflicts of interest.

References

- [1] M. Gao, F. Zeng, Z. Zhu, et al., Day care surgery versus inpatient percutaneous nephrolithotomy: a systematic review and meta-analysis [published online ahead of print, 2020 Aug 12], *Int. J. Surg.* 81 (2020) 132–139, <https://doi.org/10.1016/j.ijso.2020.07.056>.
- [2] A. Ghosh, R. Oliver, C. Way, L. White, B.K. Somani, Results of day-case ureterorenoscopy (DC-URS) for stone disease: prospective outcomes over 4.5 years, *World J. Urol.* 35 (11) (2017) 1757–1764, <https://doi.org/10.1007/s00345-017-2061-1>.
- [3] Percutaneous Nephrolithotomy (Keyhole Surgery for Kidney Stones), British Association of Urological Surgeons, July 2017. www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/PCNL.pdf.
- [4] P. Jones, G. Bennett, A. Dosis, et al., Safety and efficacy of day-case percutaneous nephrolithotomy: a systematic review from European society of uro-technology, *Eur Urol Focus* 5 (6) (2019) 1127–1134, <https://doi.org/10.1016/j.euf.2018.04.002>.

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