



Invited Commentary

An invited commentary on “day care surgery versus inpatient percutaneous nephrolithotomy: A systematic review and meta-analysis.” (international journal of surgery 2020; epub ahead of print)


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Dear Editor,

We read with great interest the paper “Day care surgery versus inpatient percutaneous nephrolithotomy: a systematic review and meta-analysis” by Gao et al. [1].

Percutaneous nephrolithotomy (PCNL) is a challenging endourological procedure that is increasingly performed, thanks to the continuous improvement of its minimally invasive nature with progressive reduction in caliber of tracts, endourological equipments and sometimes the possibility of carrying out a tubeless procedure.

Over the last years, many authors have proposed execution of PCNL on a day care surgical setting, aiming to reduce hospitalization to get mutual benefits for both patients and urological departments [2–4].

The authors performed an interesting systematic review and meta-analysis trying to assess safety and efficacy of PCNL as a day care surgical procedure compared to conventional inpatient PCNL as these were not yet adequately analyzed in literature. Four retrospective case-controlled comparative trials, one prospective cohort study and one randomized controlled trial were included in the meta-analysis. The authors found that there was no significant difference between the day care PCNL and inpatient PCNL groups in stone-free and readmission rates. In addition, day care PCNL was associated with a significantly shorter operative time.

The meta-analysis showed how this procedure can be performed safely and effectively even as a day care surgery. However, there are some additional factors to consider:

First, the choice of patients eligible for this procedure, might be of fundamental importance for safety and good outcomes. Ideally patients without complex medical problems, with normal renal functions and no risk of urosepsis are ideal candidates.

Second, the surgeon’s experience. PCNL is an endourological procedure that is particularly challenging in some patients. Beginners should generally approach these patients with due precautions and prudence. The data referable to the 6 studies analyzed in the meta-analysis probably came from expert endourologists. It is still not clear

at what level of experience is necessary to perform PCNL in a day care setting to achieve results comparable to procedures performed as inpatients.

Third, the method of execution. In the studies evaluated, all procedures were performed in the prone position. Standard PCNL with 30 Fr sheath was performed in four studies and Mini-PCNL with 14–22 Fr tract in two studies. It is not clear, although likely, that the same outcomes can also be obtained with performance of supine PCNL which is increasingly carried out [5], or with more minimally invasive procedures such as ultra mini PCNL or micro-PCNL.

In conclusion, the endourological community should consider execution of day-care PCNL as safe and effective in adequately selected patients and performed by experienced surgeons.

Provenance and peer review

Invited Commentary, internally reviewed.

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