



## Invited Commentary

## Approach to large proximal ureteric stones: Let facts drive practice

## ARTICLE INFO

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Large proximal ureteral stones  
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Ureteric stones are a common disease managed by urologists worldwide. Small ureteric (<10mm) stones are often managed using non invasive techniques but large stones (>10mm) require invasive interventions. Various invasive modalities have been developed for the management of large proximal ureteric stones (LPUS). Most common procedures used for the management of LPUS include Percutaneous Nephrolithotomy (PCNL), Ureteroscopic Lithotripsy (URL), and Laparoscopic ureterolithotomy (LU). Despite the availability of multiple head-to-head randomized controlled trials (RCTs) comparing the benefits of two modalities, there is a lack of consensus regarding the best approach to treat LPUS.

In this study, Lai and colleagues have successfully performed a meta-analysis of 12 such RCTs and concluded that the PCNL approach is the most favorable treatment option for LPUS [1]. This study provides a detailed explanation of the different treatment modalities available for LPUS and clearly delineates the superiority of PCNL over other modalities. Similar reports comparing these 3 modalities of management have provided contradicting results, increasing ambiguity regarding the best approach to LPUS [2]. By including only RCTs, this analysis by Lai et al. provides robust data regarding the success and safety of PCNL over other modalities.

PCNL is a commonly used and continuously evolving technique in the management of LPUS. At most centers, PCNL is considered to be the first line treatment due to its higher rate of stone clearance and lower prevalence of complications. Multiple PCNL-specific modifications such as miniaturization PCNL and tubeless PCNL have been developed to further reduce the occurrence of complications. Additionally, PCNL has also been shown to be the best modality for the management of large impacted stones [3]. Despite the prolonged operative time and longer inpatient length of stay compared to other modalities, the decreased need for auxiliary procedures and ability to achieve better end results make PCNL the more preferable option. Additionally, the widespread availability of PCNL has rendered it to be the most feasible and economically conservative modality for the management of LPUS. Despite the high success rate of LU, the higher rate of urinary leakage with this procedure makes it less desirable. Future studies evaluating the

best approach to LPUS, could include the use of flexible ureteroscopy, a commonly used alternative technique.

Over the past decade, there has been a rapid surge in the development of new endourological and robotic procedures for the management of LPUS. Future studies should focus on comparing the success and complication rates, along with the cost effectiveness and feasibility of these innovative procedures. However, these procedures have a steep learning curve and can be overcome by making it an integral part of residency training programs with introduction of new techniques and simulators.

Given its high success rate, reduced rate of complications and widespread availability, PCNL should be the preferred mode of management in patients with LPUS. While proven to be the most appropriate procedure in RCTs, the superiority of PCNL in a real-world clinical setting needs further investigation.

## Provenance and peer review

Invited Commentary, internally reviewed.

## Declaration of competing interest

The authors declared that no conflicts of interest exist.

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Asma Ahmed<sup>a,\*</sup>, Priyatham Kasaraneni<sup>b</sup>

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<sup>a</sup> *Department of Surgery, Ramaiah Medical College and Hospital, Bangalore, India*

<sup>b</sup> *Department of Urology, Ramaiah Medical College and Hospital, Bangalore, India*

\* Corresponding author. Department of Surgery Ramaiah Medical College and Hospital, M.S Ramaiah Nagar, Mathikere, Bangalore, 560054, Karnataka, India.

*E-mail address:* [asma.ahmed05@gmail.com](mailto:asma.ahmed05@gmail.com) (A. Ahmed).