



[Home](#) [Announcements](#) [Archives](#) [Fast Track Issue](#) [Search](#) [User](#) [About](#) [FYI](#) [Go to mat.or.th](#)

Journal of the Medical Association of Thailand, Vol 96, No 5

[Home](#) > [Vol 96, No 5](#) > [Chanprasopon](#)

Font Size: [A](#) [A](#) [A](#)

The Best Calyceal Tract Approach for Treating Renal Stones with Percutaneous Nephrolithotomy

Pontape Chanprasopon, Wisoot Kongchareonsombat, Charoen Leenanupunth, Kittinut Kijvikai, Wit Viseshsindh

Abstract

Objective: To compare the perioperative outcomes of percutaneous nephrolithotomy (PCNL) performed via the upper, middle, and lower calyces.

Material and Method: The authors retrospectively reviewed 92 renal units in 92 patients who required PCNL at our institution between 2006 and 2010. Patients with partial and full staghorn stones with total stone size ≥ 2 cm were included in the present study. Patients were excluded if they had multiple small stones or a single stone < 2 cm. The present study analyzed 92 renal units in 92 patients. The authors divided the patients into three groups (groups 1, 2, and 3) based on the surgical approach, which was the upper, middle, and lower calyceal approaches. PCNL was performed using a standard ultrasonic lithotripter with a rigid nephroscope, and holmium: YAG laser lithotripsy was carried out with a flexible nephroscope, with simultaneous nitinol tipless basket extraction of fragments. Procedures were repeated until the patients were rendered stone-free (confirmed visually or by nephrostogram). Estimated blood loss, length of hospital stay, operative time, and the number of procedures (to achieve stone-free status) were analyzed and compared among the groups, and complications were reported.

Results: The present study showed that the length of hospital stay, estimated blood loss, number of procedures, and operative time were not significantly different between the three groups. In Group 1, four patients had complications and included two patients with mid-ureteral stone, and one patient each with renal pelvic perforation and urinary tract infection with sepsis. One patient from Group 2 contracted a urinary tract infection. In Group 3, five patients exhibited complications and included one with mid-ureteral stone, two with renal hemorrhage, and two with urinary tract infection.

Conclusion: The estimated blood loss, duration of hospital stay, operative time, number of procedures (to achieve stone-free status), and complications did not statistically differ between the three groups. Moreover, very few complications occurred in the different surgical approaches. Therefore, PCNL via all the three approaches were deemed safe and effective.

Keywords: Percutaneous nephrolithotomy, Upper calyx, Middle calyx, Lower calyx access

Full Text: [PDF](#)

The Medical Association of Thailand

Address: 4th Floor, Royal Golden Jubilee Building, 2 Soi Soonvijai, New Petchburi Road, Bangkok 10310, Thailand

Telephone: 0-2716-6102, 0-2716-6962 press 0 Fax: 0-2314-6305

E-mail: jmedassocthai@yahoo.com, math@loxinfo.co.th 