



Ambulatory second look percutaneous nephrolithotripsy with matured nephrostomy tract

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ABSTRACT

Introduction and Objectives: Percutaneous nephrolithotomy (PCNL) is the standard technique for managing large renal calculi. Second-look PCNL is typically performed under intravenous (IV) sedation or spinal / general anesthesia when removing remnant stones. This requires additional pre-anesthesia assessment and close monitoring. To simplify this procedure, we investigated the feasibility and safety of second-look PCNL without anesthesia and sheath after maturation of the nephrostomy tract.

Material and Methods: This study included 14 eligible patients with remnant stones >5mm in diameter, as determined by simple CT scan after supine PCNL through a single nephrostomy tract under general anesthesia. A 24Fr nephrostomy tube was inserted after surgery. Second-look PCNL was performed after seven days of maturation of the nephrostomy tract. Prior to second-look surgery, 25mg pethidine was injected intravenously. Second-look supine PCNL was performed using a rigid or flexible renoscope without anesthesia or sheath.

Results: The mean patient age was 57.4±8.5 years. The mean stone diameter was 5.4 × 3.3cm, while the mean number of stone branches was 4.1±1.4. The mean operation time during the first PCNL was 131.1±24.8 min, and the mean residual stone rate was 24.3%±10.2%. The mean operation time during second-look PCNL was 97.4±36.0 min; after the second procedure, the mean pain score on the numeric rating scale was 2.8±1.0. All patients were stone-free without complications.

Conclusion: Second-look PCNL without anesthesia and sheath after maturation of the nephrostomy tract may be an effective procedure for removing remnant stones in select patients without excessive levels of pain.

CONFLICT OF INTEREST

None declared.

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