

Use of hemostatic sealant in tubeless percutaneous nephrolithotomy: Experience of a single institution from Taiwan.

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Abstract:

Objective Tubeless percutaneous nephrolithotomy (PCNL) offers several advantages over standard PCNL, including a shorter hospital stay, less analgesic requirement, and less postoperative pain. Using a fibrin sealant to seal the nephrostomy tract had become a widely accepted technique at the conclusion of tubeless PCNL. Our objective is to evaluate the efficacy and safety of tubeless PCNL using hemostatic matrix. **Materials and methods** This is a retrospective review of PCNL database at our hospital between June 2014 and March 2016. During this period, a total of 139 PCNLs were performed, including 41 with tubeless technique with adjunct of hemostatic matrix (Floseal; Baxter, Deerfield, IL, USA) at the conclusion of the PCNL procedure. The standard PCNL group and the tubeless PCNL group were compared in terms of demographic characteristics, perioperative data, stone characteristics, and complication rate. **Results** Of all 123 patients included in this study, 41 underwent tubeless PCNL. Demographic data of the two groups were comparable except for a higher proportion of male patients in the tubeless PCNL group (73.2% vs. 53.7%). Stone characteristics were also comparable in the two groups. Perioperative variables, including operative time, drop of serum hemoglobin level, and perioperative complication rate, revealed no statistical difference between the two groups. Tubeless PCNL was associated with less postoperative pain, less analgesic requirement, and a shorter hospital stay ($p < 0.01$). **Conclusion** Tubeless PCNL with adjunct use of a hemostatic sealant can be considered as a safe treatment option for renal calculi with favorable outcome, without an increase in complications. Compared with standard PCNL,

tubeless PCNL with hemostatic sealant use is associated with less pain, use of fewer narcotic agents, and a shorter hospital stay.

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