

Evaluation of percutaneous nephrolithotomy (PCNL) of upper calices with subcostal access

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Abstract

Background and Objective: Intercostal and supracostal access tract are usual access for percutaneous nephrolithotripsy (PCNL) for upper calices stones. But pleural complication of these tracts are high. This study was done to evaluate percutaneous nephrolithotomy (PCNL) of upper calices with subcostal access.

Materials and Methods: Seventeen patients (12 males, 5 females) with stones limited to upper calices with diameters of 11-27 mm and 1-5 in numbers, candidated for PCNL. Ultrasonography and intravenous urography were performed for all patients prior to surgery. In all patients PCNL performed in prone position and access is made at prolonged and deep inspiration from subcostal with fluoroscopic guidance. Following access to upper calices, guide wire inserted and dilatation of tract up to 28 or 30 Fr informed. After insertion of 28 or 30 Fr Amplatz sheath nephroscopy performed.

Results: Two patients excluded and finally 15 patients were accounted. In 15 patients subcostal access performed successfully (88.2 %). In 5 patients stones of less than 10 mm extracted with grasps. In 10 patients after pneumatic lithotripsy, particles of tones removed. 11 patients rendered stone free (73.3%). 4 patients had residual stones of greater than 5 mm in minor calices that in 3 patients after single ESWL resolved. 3 patients needed infandibular dilatation for complete stone extraction. No infection, transfusion, pneumothorax, hydrothorax, respiratory discomfort in operation and post operation period were seen. In one patient a perirenal collection of liquid with diameter of 5 cm was detected. Perirenal collection of liquid was removed with preventional treatment and antibiotics regiments.

Conclusion: PCNL with subcostal access for upper calices stones is a feasible and safe with low complication and can be performed instead of supracostal access tracts.

Keywords: Subcostal, Upper calices, percutaneous nephrolithotripsy

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