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MP23-13  PCNL TRAJECTORY TO PREDICT SUCCESS IN SUPINE PCNL: A NOVEL CONCEPT
Ada T NG, Kenneth K FU, KL HO
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Introduction: Supine PCNL confers certain advantages over prone. Access parameters change with positioning. Supine position limits maneuverability of instruments, limiting access to upper & mid-pole stones. We aim to determine predictive factors for success of supine PCNL through road-mapping of PCNL trajectory.

Material and method: Consecutive patients undergoing PCNL from July-Dec 2010 were recruited. Choice of position was made by surgeon. Tracts were performed under USG & fluoroscopy. Distances and angles were measured intra-operatively with rigid and flexible nephroscope, and correlated with pre-operative imaging.

Results: 19 patients underwent PCNL (13 supine, 6 prone). Stone load was comparable in both groups. Overall stone clearance after single PCNL was 74%. Regardless of abdominal thickness and approach, all lower pole and renal pelvic stones were reached with mean excursion of 140 mm in supine & 105 mm in prone position. Mean entry angle was 59 for supine, and 35 for prone.

In supine PCNL, the upper pole was reached in 4 of 11 tracts, with mean excursion of 172 mm & entry angle of 33. Similarly, 2 of 11 supine PCNL reached middle pole. Conversely, all prone PCNL tracts reached upper & middle pole with decreased excursion & angle. Conclusion: PCNL in prone position can reach renal pelvis & 3 poles via lower pole puncture. PCNL trajectory may be a tool to predict success in supine PCNL by estimating chance of reaching mid & upper pole. Skin to upper pole distance larger than 185 mm and entry angle more than 48 degrees decrease chance of upper pole access.

MP23-14  CONVENTIONAL-PNL VS MINI-PNL: COMPLICATION CLASSIFICATION ACCORDING TO A MODIFIED CLAVIEN GRADING SYSTEM.
Jan P. Jessen, Gunnar Wendt-Nordahl, Patrick Honeck, Thomas Knoll
Department of Urology, Sindelfingen-Boeblingen Medical Center, University of Tuebingen, Sindelfingen, Germany

Introduction: Percutaneous Nephrolithotomy (PNL) is an effective minimal-invasive therapy of kidney stones. However, major complications are reported on a regular basis. The significance of miniaturized PNL (Mini-PNL) regarding a reduced complication rate is controversially debated. Diversity in interpretation of perioperative morbidity complicates the comparison of studies. Aim of this study was the comparison of our PNL- and Mini-PNL-cases by means of a modified Clavien grading system.

Material and methods: We reevaluated the data of our prospective collected PNL database. All PNL- and Mini-PNL-interventions since 01/1998 were included, matching a total of 386 cases with complete documentation (308 conventional PNL vs 78 Mini-PNL). Excluded were complex surgeries, as in case of anatomical malformation, concomitant ureter stones or after urinary diversion. We used the modified Clavien grading system according to Sarikaya et al., J Urol 2011. All patients received a perioperative antibiotic prophylaxis beginning on the preoperative day, respectively an antibiotic treatment according to test results. Tract diameter was 26F for PNL and 18F for Mini-PNL. At the end of the procedure, a nephrostomy tube of 22 respectively 14 Fr was inserted, or an antegrade 6 Fr DJ was placed.

Results:
Conclusion: Our study confirms the low morbidity of percutaneous stone therapy.

MP23-15  TREATMENT OF CALYCEAL DIVERTICULAR CALCULI ON MINIMALLY INVASIVE PERCUTANEOUS NEPHROLITHOTOMY: A REPORT OF 24 CASES
Liu YuQing
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Grade I:
- Urinary fistula < 12 h
  PNL: 98/308 (32.2%)
  Mini-PNL: 1/78 (1.3%)
- Fever < 24 h
  PNL: 55/308 (17.9%)
  Mini-PNL: 4/78 (9.0%)

Grade II:
- Fever > 24 h
  PNL: 85/308 (27.6%)
  Mini-PNL: 9/78 (11.5%)
- Blood transfusion or perirenal hematoma
  PNL: 4/308 (1.3%)
  Mini-PNL: 0/78 (0%)

Grade III:
- DJ insertion/PCN
  PNL: 17/308 (5.5%)
  Mini-PNL: 6/78 (7.7%)
- Drainage hydrothorax
  PNL: 0/308 (0%)
  Mini-PNL: 0/78 (0%)

Grade IV:
- Major complications with need of intensive care
  PNL: 7/308 (2.3%)
  Mini-PNL: 0/78 (0%)
- (Multi-)organ failure (e.g. dialysis)
  PNL: 1/308 (0.3%)
  Mini-PNL: 0/78 (0%)

Grade V:
- Death
  PNL: 0/308 (0%)
  Mini-PNL: 0/78 (0%)