P024 Retrograde intrarenal surgery and percutaneous nephrolithotomy for the treatment of stones in the horseshoe kidney

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Introduction & Objectives: To evaluate retrograde intrarenal surgery (RIRS) and percutaneous nephrolithotomy (PCNL) for renal stones in the horseshoe kidney (HSK) anomaly.

Materials & Methods: The demographic, stone and surgery related characteristics, and the success and complication rates of adult patients who underwent PCNL and RIRS between January 2010 September 2017 for renal stones in HSK were retrospectively evaluated. Postoperative success was evaluated after day 15, and the overall success following the conclusion of treatment after additional procedures.

Results: 28 patients who had stones in HSK underwent RIRS as the primary treatment, and 21 underwent PCNL. Average Charlson Comobidity Index (CCI) was 1.66 (0-6) and 0.85 (0-4) in the RIRS and PCNL groups, respectively. Average stone surface area was 200.29 ± 148.23 (56720) mm2 for the RIRS group and 514.76 ±3 34.98 (100-1064) mm2 for the PCNL group. In the first session, success was achieved in 16 (64.2%) patients in the RIRS group and 17 (80.9%) in the PCNL group. Success was achieved in 23 (82.1%) patients in the RIRS group following an average of 1.46 ± 0.69 sessions and in 18 (85.7%) patients in the PCNL group following an average of 1.09 ± 0.30 sessions. These numbers reached 24 (85.7%) for RIRS and 19 (90.4%) for PCNL with additional procedures. Mean operative and hospitalization times were 67.14±33.97 minutes and 2.17 ± 1.98 days for the RIRS group, and 87.14 ± 41.33 minutes and 4.19 ± 2.24 days with PCNL. A total of 6 (14.6%) complications were encountered in different patients across 41 RIRS procedures and 9 (42.9%) complications across 23 PCNL procedures (Table 1).

Conclusions: In the HSK anomaly, medium-sized renal stones can be treated with RIRS and PCNL with high success. With its low complication rates and safe use, RIRS can be preferred for medium-sized stones, especially to avoid complications associated with PCNL in patients with comorbidities. It must be considered in the surgical plan that the number of RIRS sessions may increase for the HSK anomaly.