

## **Effectiveness of Combined Intrarenal Surgery (ECIRS) in Management of Large and Complex Kidney Stones**

**Introduction and Objective:** PCNL combined with retrograde ureteroscopy can be beneficial and lead to stone-free results. Aim of this study is to retrospectively analyze the efficiency of endoscopic combined intrarenal surgery (ECIRS) and compare it to the percutaneous nephrolithotomy (PCNL) alone.

**Materials and Methods:** From January 2011 to February 2012, 79 patients with kidney stones were selected for PCNL or ECIRS surgery. For ECIRS patients with large or multiple stones were selected. Thirteen patients underwent ECIRS (group A) whereas the other 66 underwent PCNL (group B). Patients' mean age in group A was  $64,92 \pm 8.15$  years, in group B –  $59,84 \pm 12,9$  ( $p=0.078$ ). In group A 2 patients (15.4%) had single stone and 11 (84.6%) had multiple stones. In group B 31 patient (41%) had single stone and 35 (53%) had multiple stones. In group A 5 patients underwent ECIRS in Galdakao-modified supine Valdivia (GMSV) position, 4 in prone and 4 in supine position. In group B 8 patients underwent PCNL in GMSV position, 48 in prone position and 23 on supine position. In group A 9 (69.2%) patients scored 2 ASA points and 4 (30.8%) patients 3 points. In group B 47 (70.9%) patients scored 2 points and 19 (29.1%) patients scored 3 points. Mean body mass index in group A was  $26.4 \pm 3.26$  while in group B  $30.85 \pm 14.1$ . Stone free rate after first operation in group A was 92.3% and in group B- 86.4%.

**Results:** Mean operative time in group A was  $119.62 \pm 28$  min and in group B –  $91.67 \pm 24.5$  min. Stone free rate after first operation in group A was 92.3% and in group B- 86.4%. No complications were registered in A group and 5.2% in B group. Hospitalization time after operation was 5.4 days in group A and 5.8 in group B.

**Conclusions:** These data show that combined intrarenal surgery achieve greater stone free rate than PCNL alone. There is no significant difference between ECIRS and PCNL in duration of hospitalization whereas operative time for the management of large and/or complex kidney stones in ECIRS group is longer.