

**FP13****Factors affecting stone free rate and complications of Percutaneous Nephrolithotomy: a single center analysis over 10 years**H.J. Cho¹, S.W. Choi¹, K.S. Kim¹, J.H. Kim¹, Y.H. Park¹, W.J. Bae¹, U.-S. Ha², S.-H. Hong¹, J.Y. Lee¹, S.W. Kim¹, T.-K. Huang¹¹Seoul St. Mary's Hospital, Seoul, Korea Republic²Yeouido St. Mary's Hospital, Seoul, Korea Republic

Objective: To determine the preoperative and perioperative predictive factors of stone-free rate and complications in patients undergoing percutaneous nephrolithotomy (PCNL).

Materials and Methods: We retrospectively reviewed all patients undergoing PCNL at our institution from June 2003 to June 2014. Demographics, stone parameters, perioperative factors, comorbidities, previous history of extracorporeal shock wave lithotripsy and renal surgery, complications classified by modified Calvien grading system, and stone-free rates were evaluated. Significant factors on univariate analysis were included in a logistic regression the multivariate analysis.

Results: A total of 754 patients (485 male and 269 female) with a mean age of 52.8±14.7 years (range 1-86yrs) were included in this study. Initial and overall stone-free rates were 65.1% and 79.8%, respectively. A total 136 (18%) complications were documented in 124 patients. On univariate analysis, previous renal surgery, increasing operative time and stone burden, staghorn stones, presence of stones in the lower pole and upper ureter, radio-lucent stone, supracostal approach, multiple tract and puncture were associated with lower SFR. Increase of stone burden (odd ratio: 1.337 and 3.677), absence of stones in the upper ureter (odd ratio: 0.229), and multiple puncture (odd ratio: 4.802) were independent risk predictors of SFR on multivariate analysis. Univariate and multivariate regression analysis revealed that increasing stone burden was the only factor affecting development of complications ($P < 0.001$).

Conclusions: Independent risk factors affecting the incidence of residual stones are stone burden, presence of stones in the upper ureter, and multiple puncture. Furthermore, increasing stone burden is associated with development of complications of PCNL.