

P012 Retrograde intrarenal surgery with semi-rigid and flexible ureterorenoscope for renal pelvic stones: Retrospective comparisons of success and complication rates

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Tarhan F.¹, Eryildirim B.¹, Dincer E.¹, Hancı B.¹, Sarica K.²¹Kartal Dr. Lutfi Kirdar Training and Research Hospital, Dept. of Urology, Istanbul, Turkey, ²Kafkas University School of Medicine, Dept. of Urology, Kars, Turkey**Introduction & Objectives:** To compare the stone-free and complication rates of retrograde intrarenal surgery (RIRS) for renal pelvic calculi with two different approaches (semi-rigid ureterorenoscopy (URS) and flexible URS) in a comparative .**Materials & Methods:** A total of 247 patients undergoing retrograde renal surgery with either semi-rigid and flexible URS for renal pelvic stones in between 2015 and 2018 were included into this study. While 179 cases were managed with flexible URS (Group 1), remaining 68 cases were managed with semi-rigid URS (Group 2). Patients in both groups were comparatively evaluated with respect to the patient (age, gender), stone (hardness (Hounsfield Unit- HU), size) and procedure (duration, stone-free rate, complication rates, length of hospital stay and additional surgical interventions)related factors in a retrospective manner.**Results:** While the mean age of the Group-1 was 49.0 ± 1.10 years and this value was 50.0 ± 1.60 years in Group 2 ($p = 0.74$). Although 108 (60.3%) of the patients in Group 1 were female, 34 (50.0%) of the patients in Group 2 were female ($p = 0.15$). No significant difference was found between the HU values of the two groups (941 ± 30 vs. 1036 ± 44 , $p = 0.077$). The stone size of Group 2 was significantly higher than Group 1 (14.0 ± 0.62 mm vs. 17.0 ± 0.86 mm, $p = 0.0009$). In Group 1, the operation time was longer than Group 2 (81.0 ± 3.20 min vs. 71.0 ± 8.60 , $p = 0.047$). Hospitalization period (3.5 ± 0.19 days vs. 4.6 ± 0.57 , $p = 0.22$) and additional intervention rates (27/179 vs. 9/68, $p = 0.84$) were similar in both groups. No significant difference was observed between the two groups regarding the postoperative early ($p = 0.66$) and late ($p = 0.24$) period stone-free rates. According to the Clavien-Dindo classification, 9 patients (5.0%) in Group 1 and 10 patients (14.7%) in Group 2 had complications ($p=0.038$). Last but not least, the septic complications were found to be more common in Group 2 (1.1%), than in Group 1 (8.8%) cases ($p = 0.018$).**Conclusions:** Semi-rigid URS provided similar stone-free rates for renal pelvic stones when compared with flexible URS approach. However, the rate of overall and septic complications were higher in cases undergoing semirigid URS. Our results indicate that, decision making for the ureteroscopic management of renal pelvic stones should be performed in an individualized manner in experienced hands to increase the stone free rates and limit infective complications.