

## PP-072

### The endourological treatment of renal matrix stones

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**Objective:** Renal matrix stones are a rare form of calculi. Conventional radiologic techniques are unable to make a correct diagnosis of renal matrix stones. Also, intravenous urography does not always help distinguish between matrix stones and other filling defects, while computer tomography is more reliable in diagnosing. However, an unquestionable diagnosis is usually made at surgery. We report our experience with the endourological treatment of this relatively rare entity.

**Methods:** We treated 9 female patients (Table 1). We used PCNL and the matrix stones were aspirated or removed with forceps and for the hard component ultrasound lithotripsy was employed. In the retrograde approach (RIRS), either semirigid or flexible instruments were employed and the matrix component was evacuated with either forceps or basket, or with an aspirator. Ho:YAG laser was used to fragment the calcareous component or to cut the matrix material. SWL was used to treat residual fragment of hard component.

**Results:** The first line treatment in 6 patients was PCNL with complete clearance in a single session. One patient was treated with RIRS and SWL of residual fragments; an additional patient with RIRS and PCNL. In this patient, RIRS was also indicated to establish the diagnosis of a filling defect. A patient required a multidisciplinary approach because of early stone relapses.

**Conclusion:** PCNL has been confirmed as the first option, while RIRS may be employed to treat either lower size stones or stones at high risk of recurrence. A close follow-up are suggested in order to reduce the risk of recurrence.

**Table 1. Summary of patients treated for matrix calculi**

Pts	Age	UTI	Stone location	Treatment
1	4	-	Pelvis	PCNL
2	65	+	Pelvis	PCNL
3	49	Bacteriuria	Pelvis, lower calyx	PCNL
4	27	Bacteriuria	Staghorn	PCNL
5	35	-	Staghorn	PCNL
6	69	-	Pelvis	RIRS + SWL
7	56	-	Upper calyx	RIRS + PCNL
8	52	+	Staghorn	PCNL
9	50	+	Multiple	Multidisciplinary approach

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