

The use of endoscopic combined intrarenal surgery as an additional approach to upper urinary tract urothelial carcinoma: Our Experience

Marco Serafino Grande*, Davide Campobasso, Raffaele Inzillo, Matteo Moretti, Francesco Facchini, Jean Emmanuel Kwe, Antonio Frattini

Department of Urology, Civil Hospital of Guastalla, IRCCS Reggio Emilia, Reggio Emilia, Italy

*E-mail: marcogrande2@yahoo.it

ABSTRACT

Introduction: With increasing experience and advancing technology, endoscopy for UTUC has become more common. Endoscopic Combined Intrarenal Surgery (ECIRS) could be an option for patients with low-grade and large-volume UTUC that could be either anatomically or technically challenging to manage by retrograde flexible ureterorenoscopy.

Materials and Methods: In this video, we describe, step by step, our ECIRS technique as applied to two selected clinical cases of UTUC.

Conclusion: ECIRS could represent a useful approach to UTUC in selected cases. The advantage of the “endovision” puncture and dilation technique is in the avoidance of entering the renal calyx at the level of the tumor. In addition, the combined approach, compared to the purely percutaneous approach, allows access to, and treatment of, neoplasms located in all renal calyces.

INTRODUCTION

Upper urinary tract urothelial carcinoma (UTUC) is uncommon and accounts for only 5%–10% of all urothelial carcinomas (UC).^[1] Traditionally, radical nephroureterectomy was considered the standard of care for UTUC. With increasing experience and advancing technology, endoscopy for UTUC has become more common.^[2]

The antegrade percutaneous endoscopic approach is usually reserved for patients with low-grade and large-volume UTUC that could be either anatomically or technically challenging to manage by retrograde flexible ureterorenoscopy (URS), especially tumors located in the lower pole.^[3] The main risks of the percutaneous procedure compared

to a purely endoscopic approach include tumor seeding along the percutaneous tract, rarely described,^[4] and colonic perforations, that are reported to occur in 0.3%–0.5% of percutaneous punctures.^[5] In this scenario, endoscopic combined intrarenal surgery (ECIRS) could be an additional therapeutic strategy for UTUC in selected cases.

MATERIALS AND METHODS

In this video, we describe, step by step, our technique as applied to two selected clinical cases. In both cases, the patients had a solitary kidney and underwent a diagnostic retrograde intrarenal surgery (RIRS) with cold cup biopsy. The pathological report described a low-grade UTUC in both cases.

In the first clinical case, we describe a bilateral synchronous disease treated with left nephroureterectomy and right

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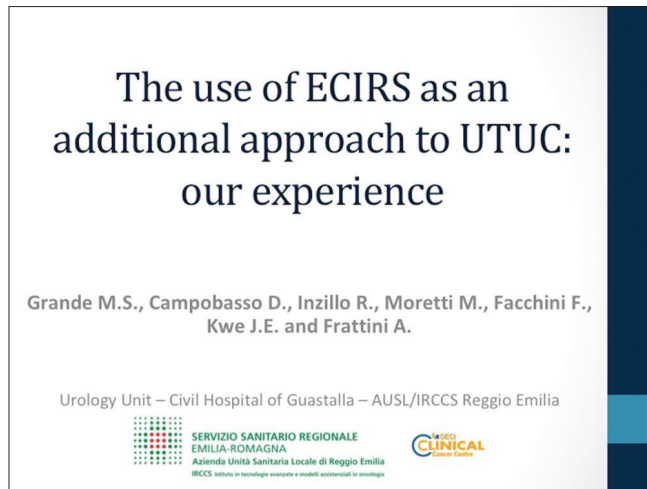
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endourological management. In the right kidney, an adjuvant topical treatment with one-shot intrarenal mitomycin C (through a retrograde ureteral catheter) and a subsequent induction cycle with bacillus Calmette–Guerin, instilled at full dose as a 6-week course through a percutaneous nephrostomy tube, was administered. During follow-up, we observed that right nephroureterectomy and radical cystectomy was performed at another urological center after 6 years. In the second clinical case, we describe our endoscopic approach in a patient affected by low-grade UTUC of >2 cm size in a solitary kidney with a concomitant suspicious solid/cystic mass (4 cm) of the upper renal pole. After ECIRS, we performed an endoscopic second look with targeted biopsies (under pathological examination) to confirm the absence of recurrence after 1 month with no apparent tumor relapses. The patient is awaiting adjuvant topical chemotherapy and a subsequent follow-up RIRS at 3 months. Moreover, cryoablation of the renal mass will

be performed for the patient in a dedicated urology unit at a later date.

CONCLUSIONS

ECIRS could represent a useful approach to UTUC in selected cases. The advantage of the “endovision” puncture and dilation technique is in the avoidance of entering the renal calyx at the level of the tumor. In addition, the combined approach, compared to the purely percutaneous approach, allows access to, and treatment of, neoplasms located in all renal calyces.^[6]

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