

**Conclusion:** Hypofractionated dose escalated radiation treatment using IG-IMRT with Tomotherapy seems to be feasible and well tolerated being able to obtain optimal outcomes reducing total treatment time without increasing acute and severe side-effects. Hypofractionation and dose escalation in radical or concomitant (hormonotherapy) setting should be considered in the management of non surgical prostate cancer.

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### EVALUATION OF TRANSURETHRAL BLADDER RESECTION COMPLICATIONS: A MODIFIED CLAVIEN CLASSIFICATION SYSTEM ANALYSIS

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**Introduction:** The modified Clavien classification system (CCS) has been proposed to classify and grade complications in general surgery. It is increasingly becoming popular in urology although has never been used to date in common procedures such as transurethral resection of bladder tumor (TURB). The aim of our study is to evaluate the applicability of the modified CCS in reporting and grading the severity of perioperative complications in patients with bladder tumor treated with TURB. **Patients and Methods:** A consecutive series of patients with bladder lesions who underwent transurethral resection of bladder tumour (TURB) from April 2011 to August 2011 at six academic centres were evaluated for complications occurring up to the end of the first postoperative month. Variables analyzed for each patient were: age, sex, diabetes, hypertension, ischemic heart disease, score, tumor size, number of lesions, grade of tumor, anticoagulation therapy, type of diversion, operation time, preoperative hydronephrosis and BMI. All complications were prospectively recorded and classified according to the modified CCS. Results were presented as complication rates per grade. Chi-square, Kruskal Wallis tests and logistic regression analysis were used for statistical analysis. **Results:** 275 patients were consecutively enrolled. Mean age was 68.26±8.1 years; mean BMI was 28.3±4 Kg/m<sup>2</sup>, mean tumour size was 2.38±2.3 cm; mean number of tumour lesions was 2.52±2.3. All patients underwent a monopolar TURB. Mean operative time was 43±28 m. Fifty-six complications were recorded in 51 patients. Overall perioperative morbidity rate was 18.5%. Most of them were not serious (haematuria and clot retention) and were classified as Clavien type I (42 cases; 75%) or II (8 cases, 14%). Higher grade complications were scarce: CCS IIIb in six cases (11%). No TURB related death was reported. Six patients were re-operated due to significant bleeding or clot retention on postoperative days 2-7. No significant association between Age, sex, ASA score, anti-coagulant treatment, BMI, tumor size, number of lesions, diabetes, hypertension, ischemic heart disease and hospital stay with the number of complications were observed. On univariate (73.5±38 vs. 36.7±21.6 minutes) and multivariate analysis longer operative time was the only independent parameter associated with a higher risk of CCS type I complications (OR: 1.040 per minute, 95%CI 1.025-1.055, *p*=0.001). Grade Complications I 42 II 8 IIIb 6 IV 0 V 0. **Conclusion:** The modified CCS

represents a practical and easily applicable tool that may help urologists to classify the complications of TURB in a more objective and detailed way. In our experience, using this CCS tool, TURB is a safe procedure with a low morbidity rate. Post-operative bleeding is the most significant complication that determines a reoperation. A longer operative time is a significant risk factor for not serious post-operative complications.

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### HIGH-INTENSITY FOCUSED ULTRASOUND (HIFU) IN PROSTATE CANCER IN PATIENTS WITH LOW, INTERMEDIATE OR HIGH-RISK OF PROGRESSION

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*Objective:* HIFU is a minimally invasive treatment based on thermal ablation of tissues which are warmed up to 85°C in the focal area. Clinical studies have shown such treatment modality to be safe and effective in the management of localised prostate cancer (1) as well as of local recurrences after radical prostatectomy or radiotherapy (2), but there are still few data in patients with high-risk localised prostate cancer: clinical stage  $\geq$  T2c or Gleason score 8-10 or PSA  $>20$  (3). *Patients and Methods:* From May 2002 to February 2012, 179 patients with no previous treatment for prostate cancer, aged 44 to 86 years (mean 75) underwent 206 HIFU treatments; 27 patients needed a second treatment as the first was incomplete (4 patients) or because of recurrence (23 patients). The prognosis subgroups were defined as low-risk in 29 patients (clinical stage T1-T2a, PSA  $\leq$  10 ng/mL and Gleason score lower than 7), intermediate-risk in 47 patients (clinical stage T2b or PSA 10-20 ng/mL or Gleason score of 7), and high-risk in 103 patients (clinical stage  $\geq$  T2c or PSA  $>20$  ng/mL or Gleason score higher than 7). *Results:* At a mean follow-up of 79.3 months, biochemical success rate (PSA constantly  $<0.5$  ng/ml) was obtained in 82.8% of low and intermediate risk patients and in 42.7% of high risk patients; post-treatment biopsies (6 months after treatment) revealed no residual tumour in 92.1% of low or

intermediate risk patients and in 58.2% of high risk patients. *Conclusion:* Radical prostatectomy remains the “gold standard” for localised prostate cancer. However, HIFU seems to be a promising alternative and less invasive treatment modality with an encouraging success rate, at least in the short-term, in patients with low and medium risk of progression, not candidates for radical surgery; in cancers with clinical stage  $\geq$  T2c, or PSA  $>20$  ng/mL, or Gleason score higher than 7 seems to get good results in about half of patients.

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- 2 Berge V, Baco E and Karlsen SJ: A prospective study of salvage high-intensity focused ultrasound for locally radiorecurrent prostate cancer: early results. *Scand J Urol Nephrol* 44(4): 223, 2010.
- 3 Ficarra V, Zecchini S, Novara G *et al*: Short-term outcome after high intensity focused ultrasound in the treatment of patients with high-risk prostate cancer. *BJU Int* 98: 1193, 2006.

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### NEPHRON SPARING TREATMENT IN THE TRANSITIONAL CELL CANCER OF THE UPPER URINARY TRACT

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*Purpose:* Nephroureterectomy with excision of a cuff of bladder remains the standard for managing upper tract transitional cell carcinoma, which could, in selected cases, be managed conservatively (1). *Patients and Methods:* In 12 years we have treated 169 reno-ureteral unities (r.u.u.) for urothelial tumors; 107 r.u.u. with low-stage and low-grade disease (96 patients, 11 with bilateral tumor and 4 solitary kidney), were treated by an endoscopic approach; in 62 cases (5 for high grade recurrences after conservative approach) nephroureterectomy was performed. In 107 r.u.u. treated by ureteroscopy approach, we observed 5 high-grade recurrences (nephroureterectomy) and 34 low-grade (G1-G2) recurrences. Each r.u.u. received an average of 2.5 ureteroscopic operative procedures. The patients were followed up for a mean of 49.9 months after initial treatment and currently they are all recurrence free. 11/96 patients with suspect tumor of the upper tract (11.4%) had no carcinoma in the ureteroscopic biopsy.