

# ABSTRACTS OF THE 25th ANNUAL MEETING OF THE ITALIAN SOCIETY OF URO-ONCOLOGY (SIUrO)

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Abdominal ultrasound showed significant left hydronephrosis caused by a solid lesion involving the left hemitrigonal wall and papilla. Subsequent positron emission tomography (PET) scanning showed no evidence of secondary lesions. *Results:* The patient underwent transurethral resection of the left hemitrigonal lesion and placement of double-J (DJ) stent (anatomical pathology report: infiltrating vesical carcinoma of renal origin). The patient's immunohistochemical profile was as follows: CK7, CK20, p63, PSA negative, Cd10, Vimentin positive (Fig 1-2) After a 5-month follow-up, the patient had no recurrence of hydronephrosis and hematuria and his overall health condition was deemed to be good. *Conclusion:* Due to the rarity of these tumors, their management is not standardized. Transurethral resection and partial cystectomy have been described. Genitourinary metastases are generally thought of as harbingers of poor prognosis; however, long-term survival is occasionally reported.

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#### **MRI EVALUATION OF PROSTATE VOLUME SHRINKAGE AFTER NEOADJUVANT HORMONE THERAPY IN PROSTATE CANCER PATIENTS TREATED WITH DEFINITIVE HYPOFRACTIONATED RADIOTHERAPY**

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*Aim:* The aim of this study was to evaluate, by means of magnetic resonance imaging (MRI), the amount of prostate volume shrinkage in patients with intermediate risk prostate cancer who underwent neoadjuvant hormone therapy (NHT) before definitive treatment with radical radiotherapy. We hypothesize that target volume reduction can permit a better treatment optimization when an hypofractionated radiotherapy (HRT) is planned. *Materials and Methods:* Twelve patients with histologically proven adenocarcinoma of the prostate (intermediate risk), with prostate volume >50 cc, were selected to be treated with NHT, with bicalutamide 150 mg/day. The patients' median age was 73 years (range=68-76). All patients underwent clinical assessment and cardiological examination before starting NHT. We proceeded as follows: (i) execution of MRI 1 (baseline), computed tomography (CT) simulation and HRT treatment plan 1; (ii) starting of NHT, planned for six months; (iii) execution of MRI 2, CT simulation and HRT treatment plan 2; (iv) radiation treatment. Prostate volume evaluation was performed by means of MRI of the lower abdomen and pelvis, with and without contrast agent, using three-dimensional fast spoiled gradient-echo (3D-FSPGR) sequences and evaluated by the same team. Radiation treatment was performed with 3D conformal technique and started after

six months of NHT. The total dose administered was 72.5 Gy by means of a mild hypofractionation regimen, 2.5 Gy/day, 29 fractions. Hormone therapy was maintained during HRT and stopped at the end of treatment. Another MRI scan was made after 6 months from the end of HRT (MRI 3) to evaluate the possible further prostate downsizing. *Results:* MRI 2, compared with the baseline MRI 1, showed a prostate shrinkage between 12% and 24% from the initial volume. The HRT treatment plan simulation 2, unlike the first plan, showed a reduction in dose delivered to the rectum (between 8-10%) and bladder (between 13-19%). All patients completed both NHT and HRT. Radiation therapy was well tolerated with no events of acute G3 or higher toxicities (according to Common Terminology Criteria for Adverse Events (CTCAE), v4.03). Nine patients developed a moderate gynecomastia. MRI 3 showed a further slight prostate volume reduction, variable between 5% and 11%. *Conclusion:* The results demonstrate the effectiveness of NHT in prostate volume shrinkage. Downsizing achieved help to perform 3D conformal radiotherapy, especially when an hypofractionation regimen is planned, with a low toxicity profile.

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#### **IMAGE-GUIDED HYPOFRACTIONATED RADIOTHERAPY FOR LOCALIZED PROSTATE CANCER WITH 42 GY IN 7 FRACTIONS: RADIOBIOLOGY AND PRELIMINARY CLINICAL RESULTS OF A PHASE-II STUDY**

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*Introduction:* The evolution of radiation technology, which integrates 3-dimensional anatomy, conformal dose coverage and image guidance combined with a better understanding of prostate cancer radiobiology and fraction sensitivity of the tumor relative to nearby normal tissue, has led to hypofractionated radiation therapy schedules. Clinical data now exist from several studies, including randomized trials using various moderately hypofractionated regimens, with dose-per-fraction ranging from 2.5 Gy per fraction for 70 Gy