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Prostate and bladder

Early toxicity assessment of pelvic SIB-VMAT for high-risk prostate cancer

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Introduction and objectives. To irradiate the whole pelvis in high-risk prostate cancer is a subject of debate, however it may improve biochemical disease-free survival in selected patients with high risk of positive pelvic lymph nodes. The spatial relationship within the pelvis among the lymph nodes, small and large bowel, bladder and rest of the tissues limits the dose escalation that can be safely delivered. We assessed the toxicity of pelvic VMAT with hypofractionated simultaneous integrated boost (SIB) to the prostate for patient with high-risk prostate cancer.

Material and methods. A retrospective toxicity analysis was performed in 10 consecutive patients treated definitively with pelvic SIB-VMAT, all of whom also received androgen suppression. The VMAT plans were designed to deliver 67.5 Gy (2.5 Gy/fr) to the prostate, while simultaneously delivering 59.4 Gy (2.2 Gy/fr) to the seminal vesicles, and 48.6 Gy (1.8 Gy/fr) to the pelvis nodes in 27 fractions. Prostate dose was equivalent to 78 Gy at 2 Gy per fraction considering an alpha/beta of 1.5 Gy. VMAT was delivered by two arcs. Dose constraints for bladder and rectal volumes receiving 70, 60 and 40 Gy were les than 25, 40 and 60% respectively. To score the toxicity we used The National Cancer Institute Common Terminology Criteria for Adverse Events, version 3.0.

Results. One patient showed a biochemical relapse during the follow-up period. The most common acute Grade 2 events were cystitis (80%) and urinary frequency/urgency (90%). Rectal acute toxicity Grade 2 with mucosal discharge was present in 70% of patients. At a median follow-up of 6 months, no late toxicity exceeding Grade 2 was seen. Mean bowel volume for V30, V40, V50 and V60 were 54.39, 32.48, 4.06, 0.36 cc respectively. Grade 2 acute or late bowel toxicity was not associated with bowel volume receiving V30, V40, V50 and V60. Acute or late bladder and rectal toxicity did not correlate with any of the dosimetric parameters examined.

Conclusion. Pelvic VMAT with SIB to the prostate was well tolerated in this series, with acceptable rate of toxicity. SIB-VMAT combines pelvic radiotherapy and hypofractionation to the primary site and offers an accelerated approach to treating high-risk disease. Additional follow-up is necessary to fully define the long-term toxicity after hypofractionation whole pelvic treatment combined with androgen suppression.

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A case report: Ductal adenocarcinoma of the prostate

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Ductal adenocarcinoma of the prostate (DAP) is considered a rare variant in contrast with the more common acinar adenocarcinoma (AAP), it represents only 0.4–0.8% of all prostate cancer, and the mixed histology no more than the 5%. We report here a case of DAP in a 68-year old man who has been followed-up since 2001 because of PSA increase (6.4 ng/ml) with negative biopsy for prostate cancer at that moment. In 2011 with new rise of PSA, to 19.6 ng/ml the biopsy result came as adenocarcinoma of large ducts. The patient underwent radical-prostatectomy with the final result of infiltrating ductal adenocarcinoma of the prostate with an in situ intraductal component, that contacts with superior surgical margin next to seminal vesicle. Despite the successful surgery, the PSA 9 months after surgery, was 0.4 ng/ml, persistent disease was assumed and had been treated with

radiation. We are reporting this case because of this rare histology and the uncommon presentation of the precursor lesion at the same time. DAP is regarded as an aggressive disease compared with the AAP with a worse overall and prostate specific survival. Commonly, when DAP is found, is already at more advanced stage, with large tumor volumes, high incidence of extra-prostatic extension and lymph nodes metastasis. DAP is arbitrarily assigned an 8 Gleason score (4+4), which describes the behavior of theses tumors. The intraductal component represents the malignant lumen-spanning proliferation within prostatic ducts and acini, as in our case, these lesions are found almost exclusively in close proximity to invasive cancer. In summary while most DAP diagnosed is associated with concomitant AAP with adverse pathology features, a highly selected subset could be found as pure DAP. In these cases is recommended a clinical management and therapy similar to those for AAP of similar Gleason and stage, considering androgen-deprivation and adjuvant radiation treatment.

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A new dietary and laxative protocol in prostate cancer radiotherapy

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Background. The position of the PTV in prostate cancer radiotherapy is affected by rectal distension. A distended rectum at the planning CT scan reduces disease control (1, 2). Dietary and laxative protocols significantly reduce rectum distension at the CT planning scan (3). We tried to work with foreign dietary protocols but they had not result in our environment.
Objectives. To study the feasibility of the new protocol and to compare rectal distension and rectal toxicity in patients before and after the implementation of the protocol.
Methods. We designed a "Mediterranean adaptation" of the Dutch antiflatulent diet published by Smitsmans et al. (3). CT planning scans before the implementation of protocol were compared against scans of patients subject to the new protocol. Rectal distension was assessed according to De Crevosier et al. (1). Rectal toxicity was assessed according to RTOG scoring criteria.
Results. Eighty-seven no-protocol patients were compared against 92 protocol patients. The rectal expansion were lower among the protocol patients with an average CSA of 7.39 ($\pm$0.54) cm^2 vs. 9.29 ($\pm$0.92) cm^2; $\alpha = 0.05$, $p = 0.0027$. On the other hand, grade 3 acute rectal toxicity (rectal bleeding during radiotherapy) was significantly lower among the protocol patients (3% vs. 13%).
Conclusions. This protocol is feasible in our population and reduces rectum distension at the CT planning scan. In addition rectal bleeding during radiotherapy is significantly lower in protocol patients. 1—De Crevoisier et al., IJROBP, 62: 965–973, 2005. 2—Heemsbergen et al., IJROBP, 67: 1418–1424, 2007. 3—Smitsmans et al., IJROBP, 71: 1279–1286, 2008.

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Abiraterone acetate in metastatic prostate cancer: Experience in our institution

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Introduction. Abiraterone acetate (AA), a potent oral CYP17A1 inhibitor is approved for treatment of metastatic castration-resistant prostate cancer (MCRPC) with a survival advantage of 4.9 months.
Purpose. To evaluate the experience in our institution of the AA treatment in MCRPC.
Material and methods. PSA, radiological and clinical responses are retrospectively analysed in patients treated with AA in our institution.
Results. 12MCRPC received AA across 2012. Median age is 67 (range: 58–83). 6 post-docetaxel, 1 post-estramustine and 4 had not received chemotherapy before starting AA. 3 patients obtained more than 50% of their PSA levels response after the beginning of AA, 2 after the first 3 months and 1 after the 6 months. 1 obtained a 25% PSA levels response after the 6 first months. 3 obtained a PSA level stabilization, 2 in the first 3 months, and 1 in the next 6 months. AA was interrupted in 6 patients, 3 because of a clinical and PSA progression, and 3 because of toxicity associated with AA. 5 patients are still on treatment with AA; 3 of these underwent a PSA level progression, but none of them experimented a clinical or radiological progression and maintain asymtomatic.
Conclusions. AA is a well tolerated treatment. Any patient suffered grade 3–4 toxicity. The treatment in metastatic prostate cancer seems to be very heterogeneous. Consensus about treatment in MCRPC patients should be achieved.

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Abiraterone in the management of elderly patients with castration-resistant prostate cancer. A case report

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Introduction. Metastatic castration-resistant prostate adenocarcinoma is defined by disease progression and/or PSA rise with testosterone levels less than 50 ng/dl. Abiraterone acetate inhibits androgen synthesis in all synthesis sources: testicles, adrenal