

RCI was classified in three categories 0 to 2, 3 to 4 and 5 and higher. For this purpose we used Kaplan-Meier method and Cox proportional hazards modeling

Results: Finally 550 patients with prostate cancer were included, with median age of 70 years old (47-85), Mean follow-up time was 136.8 months, between 5,6 and 245,8 months. D'Amico risk classification distribution was for low risk, medium and high 20.4%, 36,5% and 43,1% respectively. RCI distribution categories was as follows 61,5%, 21,8 and 16,7%. Survival analysis showed significant differences ($p < 0.001$) between RCI groups at 5 and 10 years. Survival probability was 98,2 and 88,5% ; 95% and 79,6% ; and 52,2% and 8,9% was respectively for each RCI category.

Conclusion: RCI allowed for more accurate identification of men at highest risk for other cause mortality.

Our results are in concordance with original RCI. This revised index may be used to aid medical decision making and personalized medicine for men with prostate cancer.

PO-0747

Revisiting guidelines for target definition after prostatectomy when taking MRI study into account

G. Sancho Pardo¹, D. Hernandez², D. Gimenez¹, N. Jornet³, M. Menso², E. Umbrurescu¹, F. Benítez¹, G. Gómez de Segura¹, J. Craven-Bartle¹

¹Hospital de la Santa Creu i Sant Pau, Radiation Oncology, Barcelona, Spain

²Hospital de la Santa Creu i Sant Pau, Radiology, Barcelona, Spain

³Hospital de la Santa Creu i Sant Pau, Medical Physics, Barcelona, Spain

Purpose or Objective: The definition of the clinical target volume (CTV) for salvage radiotherapy after prostatectomy is based on clinical and pathologic variables of the tumor and consensus guidelines. Multiparametric-MRI is recommended to evaluate pelvic recurrences after radical prostatectomy when the PSA is low (0.2-2 ng/ml) but the benefit of planning individualised radiation treatment based on the results of MRI is unknown. We analysed whether all suspicious lesions detected with pelvic multiparametric MRI were included in the clinical target volume defined according to four current guidelines and we determined the percentage of missing target if this radiological information was lost.

Material and Methods: We retrospectively reviewed the clinical records and multiparametric MRI studies of 70 patients with PSA recurrence after radical prostatectomy. Salvage radiotherapy of at least the prostate bed was indicated in all cases. On the simulation CT scan of 33 patients who had visible tumor recurrence in the MRI study, we delineated four different CTV according to RTOG, EORTC, PMH and FROGG consensus guidelines for postoperative prostate bed irradiation. We delineated a relapse CTV which included the radiological tumor recurrence plus 5 mm. For the PTV, we added a 5 mm margin. We compared volume size of the CTV and determined the percentage of geographically missed target (relapse PTV not included / relapse PTV).

Results: Multiparametric-MRI was positive in 33/70 patients. Local recurrence occurred in 27 patients, mainly in the perianastomotic area (19). Multiparametric-MRI detected positive lymph nodes in 7 patients, mostly in the external iliac region. The mean size of the lymph nodes was 10 mm (range 8-16 mm). The mean volumes of the CTV delineated according to the EORTC, RTOG, PMH and FROGG consensus were 81.5, 100.7, 109.3 and 99.7 cc, respectively. In 2 out of 33 cases, the recurrence depicted in the pelvic MRI was not totally enclosed in the CTV, independently of the consensus guidelines used. The missed recurrences were located in the left retrovesical region (patient 1) and at the level of the penile bulb (patient 2). The volumes of the relapsed PTV were 23.4 and 14.9 cc, respectively. The percentages of relapse PTV out of the PTV created according to each guideline were 41%, 59%, 44 and 44% in patient 1 and 44%, 39%, 39% and 41% in patient 2. In 7 out of 70 patients (10%),

lymph node recurrence would have been missed if we had only considered salvage prostate bed irradiation.

Conclusion: Using current guidelines for CTV definition for salvage radiotherapy after prostatectomy, we found that the local recurrences depicted in the pelvic multiparametric MRI were totally covered in most patients. Multiparametric-MRI may help tailor local and lymph node CTV and identify lesions to treat with a higher dose

PO-0748

Escalated-dose IMRT for prostate cancer: long-term toxicity and biochemical outcomes

H. Bettina¹, D. Strauß¹

¹Südharz- Krankenhaus Nordhausen gGmbH- Germany, Department of Radiation Oncology and Radiotherapy, Nordhausen, Germany

Purpose or Objective: To report the toxicity and preliminary biochemical outcomes with high-dose intensity-modulated radiation therapy (IMRT) to a dose of 82.8Gy in patients prostate cancer.

Material and Methods: Between April 2002 and December 2013, 757 patients with biopsy proven prostate cancer were treated with high-dose IMRT. While 398 patients received a 7 or 8- field -IMRT -sliding window- technique up to a median total dose to the prostate of 77.4 Gy/1.8Gy, 359 patients were treated with a 2 arc-Volumetric Modulated ArcTherapy (VMAT) plans up to a median total dose to the prostate of 82.0Gy/ 1.8Gy. In 264 high-risk prostate cancer patients the pelvic node region was treated to incorporate the nodes at risk. Total doses of 50.4Gy were prescribed to the pelvis. In 29 % of SW patients and 23% of VMAT patients an additional boost of 5 to 16Gy was administered in cases of MRI-staged lymph node metastases. Acute and late toxicities were prospectively scored by the RTOG/ LENT SOMA morbidity grading scales (until 2009) and a modified CTCv3.0 score (since 2009), respectively. Biochemical failure was defined according to the Phoenix definition of nadir + 2ng/ml. The median follow-up time was 65 months (range,12-151 months).

Results: The IMRT dose distribution provided excellent PTV coverage and satisfying protection of all the organs at risk, with less than 2% of all patients experiencing grade (G) 3 toxicities, G4 toxicities were not observed at all. In total 40.3 / 11 / 1.1% of patients developed acute G1/ 2/ 3 genitourinary (GU) toxicities. 28% / 3.1% of patients experienced acute G1/ 2 gastrointestinal (GI) side effects, no patient developed acute > G2 gastrointestinal symptoms. Late GU- and GI toxicity was mild with > 85% of the patients free from any GU/GI toxicity during follow-up and no time trend to increased rates or to higher grade of GU/GI-toxicity. Maximum late GU toxicities were G1/ 2/ 3 for 10/ 2.5/ 1.6% of patients, respectively. Maximum late GI toxicities were G1/2 for 4.9 / 0.4% of patients. The 5-year freedom from biochemical failure (FFBF) was 87.8% for all patients and 95, 79.9 and 83.4% for low-, intermediate-, and high-risk disease.

Conclusion: These data demonstrate that escalated -dose IMRT is a well tolerated technique in prostate cancer patients and the preliminary excellent biochemical control rates are encouraging.

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Factors predicting late severe urinary incontinence after postprostatectomy RT: a longitudinal study

B. Noris Chiorda¹, C. Sini², C. Fiorino², F. Badenchini³, A. Briganti⁴, A. Chiara¹, C.L. Deantonio¹, N. Slim¹, N. Suardi⁵, F. Montorsi⁴, N. Di Muzio¹, C. Cozzarini¹

¹San Raffaele Scientific Institute, Department of Radiation Oncology, Milan, Italy

²San Raffaele Scientific Institute, Department of Medical Physics, Milan, Italy

³Istituto Nazionale Tumori - San Raffaele Scientific Institute, Department of Radiation Oncology, Milan, Italy