Conclusions: Dose escalated radiotherapy with hypofractionated proton boost seems to be feasible for local control of prostate cancer without any serious acute or late rectal toxicity. A prospective trial between boost with HDR and protons is planned at our institution.

7025 POSTER

Long Term Outcome After Combined External Beam Radiotherapy and High Dose Rate Brachytherapy for Localized Prostate Cancer

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Background: The aim of the study was to retrospectively analyze long-term results for treatment of localized prostate cancer using combined high-dose-rate brachytherapy (HDR-BT) and external beam radiotherapy (EBRT).
Material and Methods: From November 1994 to February 2000, 51 patients with locally confined prostate cancer (stage T1b-T3b) were treated with EBRT (50 Gy in 25 fractions) and HDR-BT (16 Gy in 2 fractions). Long-term outcome was analyzed as overall survival (OS), disease-specific survival (DSS) and biochemical control (BC). Biochemical relapse was computed using the 2006 Phoenix RTOG/ASTRO definition (PSA at follow-up $\geqslant$ 2 μg/l above nadir). Time estimates were obtained using the Kaplan–Meier method. Late GU/GI toxicity was graded according to the Common Terminology Criteria, version 3.0. A cross sectional self-report survey of quality of life was performed among surviving patients using the EORTC QLQ-C30, Version 3.0 questionnaire and the prostate specific module QLQ-PR25.
Results: After a median follow up of 10.1 years, 28 (55%) patients were alive. Biochemical failure was detected in 7 patients (13.7%). The 10-year cumulative probabilities of overall survival (OS), disease specific survival (DSS) and biochemical control (BC) were 58%, 93% and 77% respectively. Late rectal toxicity and urinary tract toxicity were minimal. There were 3 patients with GU toxicity $\geqslant$3. This was reflected in the self-reported quality of life scores for urinary and bowel function where the majority patients scored their urinary and bowel function as normal. Scores for the global quality of life and physical functioning showed values that were comparable to that of the general population >70 years.
Conclusions: This retrospective analysis showed excellent local control rates of combined treatment with external-beam radiation therapy and conformal high-dose-rate brachytherapy boost. Late GU and GI toxicity was low.

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Hypofractionation and Conventional Fractionation Radiotherapy Schedules in the Treatment of Localized Prostate Cancer

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Background: Hypofractionated (HF) radiation for prostate cancer presents an opportunity to exploit potential biological and practical advantages based on a putatively low α/β ratio. We review a single institution experience of HF and conventional (CF) radiation schedules in localized prostate cancer.
Methods and Materials: From 2001–2004, 87 HF patients were treated with image-guided IMRT to 60 Gy in 20 fractions on a phase II study. During this time period, 263 CF patients were treated with 79.8 Gy in 42 fractions delivered via image-guided 3DCRT (87.1%) or image-guided IMRT (12.9%). Patients receiving adjuvant hormone therapy were excluded. The primary end-point was 5-year clinical progression free rate (cPFR) defined as post-radiation PSA nadir + 2 ng/mL, salvage therapy or positive prostate biopsy. HF non-inferiority was tested with a hazard ratio of 1.32 as the upper limit of equivalence for cPFR. Secondary endpoints were physician scored RTOG acute/late genitourinary (GU) and gastrointestinal (GI) toxicity.
Results: The HF and CF groups were similar for median age, median initial PSA, Gleason score and T-category. There were more low-risk patients in the HF group (HF 31.0% vs CF 22.8%; $p = 0.03$). cPFR and late toxicity rates are presented in the table. The difference in cPFR for HF and CF was not significant after univariate (UVA) and multivariate analyses (MVA). Significant predictors of cPFR on UVA were risk category, T-stage, initial PSA and Gleason score. Age was not a significant predictor on UVA analysis. After MVA, T-category (HR = 1.81, 95% CI 1.11–2.95; $p = 0.02$), initial PSA (HR 1.09, 95% CI 1.03–1.15; $p = 0.003$) and Gleason score (HR 2.79, 95% CI 1.65–4.70; $p < 0.01$) remained significant after MVA. Only a lower risk of late GI toxicity was associated with HF (HR = 0.41, 95% CI 0.00–0.98; $p = 0.02$), but this significance was lost on MVA when treatment method (3DCRT vs IMRT) was considered.
Conclusion: The cPFR and late toxicities of HF and CF are similar and are consistent with other reports of CF for localized prostate cancer. The sample size was likely too small to detect non-inferiority, but the possibility of HF inferiority to CF remains. The use of IMRT for HF radiotherapy may be important to maintain acceptable late toxicity rates. These results support further investigation of HF in ongoing randomized controlled studies.

	HF	CF
5 year cPFR	72%	77%
5-year late GI score		
$\geqslant$2	5%	12%
$\geqslant$3	1%	1%
5-year late GU score		
$\geqslant$2	11%	13%
$\geqslant$3	0%	2%

7027 POSTER

Postoperative External Beam Radiotherapy in Prostate Cancer − Results of the Spanish Registry of Prostate Cancer

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Background: To describe the results of treatment with EBRT in patients previously treated with radical prostatectomy.
Patients and Methods: For this study we have carried out the retrospective analysis of the data included in the electronic database of the different national researchers are part of the RECAP (Spanish Registry for Prostate Cancer). We selected for this patient who met the inclusion criteria of radical prostatectomy with or without lymphadenectomy and postoperative treatment with RTE.
Results: Patients who met the inclusion criteria have been 919 patients. The mean age was 65 years (range: 42−80 years). The type of surgery was exclusively prostatectomy in 41% of cases with lymphadenectomy in 59%. The pathological stage was pT2 in 80%, pT3 in 14% and pT4 in 1% and 5% unknown. 31% of patients increased the value of the Gleason score in surgical specimen of the value of the biopsy Gleason. The RT was administered adjuvant for pT3 and/or positive margins (3−6 months after surgery) in the 29.86% of the patients, biological relapse in 61.73% and histological relapse in 8.41%. The median pre-RT PSA was 0.73 ng/ml (0−29). The mean dose prescribed to the prostate bed was 70 Gy (54–80.8 Gy) compared with 66.6 Gy in the adjuvant RT group and 70 Gy in biological relapse. No G3−4 toxicity at any level were founded. The 66% of patients presented G0 toxicity in all areas (GU, GI, sexual). The median follow-up was 34 months (3–141 months). The biochemical failure-free survival (bDFS) at 2 and 5 years was 94% and 81% respectively. In the adjuvant RT group was 94% and 81% and biological failure group 92% and 76% ($p = 0.05$). The SG has been 99% and 96% at 2 and 5 years. The factors significantly associated with DFS and bDFS have been the value of PSA <1 ng/ml ($p < 0.0059$) and total RT dose >70 Gy ($p < 0.0737$).
Conclusions: This is the first national retrospective study of post-operative RT in prostate cancer. We conclude that administration of EBRT in patients treated with radical prostatectomy has an excellent toxicity profile and a high rate of biochemical control. The level of PSA <1 ng/ml and doses of RT greater than 70 Gy significantly influenced a better biochemical control.

7028 POSTER

Ano-Rectal Function in Patients With Prostate Cancer Following Radiotherapy or Radical Prostatectomy

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Background: Patients receiving radiotherapy (RT) for prostate cancer (PC) may suffer from bowel dysfunction including urgency, incontinence and increased frequency of defecation due to irradiation of the rectum. In this