study, we evaluated the ano-rectal function using a novel scoring system for evaluation of bowel dysfunction.
Materials and Methods: We conducted a cross-sectional study based on a patient administrated questionnaire. The questionnaire has been developed and validated in patients treated for colo-rectal cancer and includes the St. Marks fecal incontinence grading system, the Wexner incontinence score and questions on how bowel symptoms affected the quality of life (QL). A condensed ano-rectal dysfunction score (ARD) consisting of 5 items (fecal frequency, urgency and incontinence, clustering of stools and soiling) is extracted from the questionnaire. The study included 372 PC patients treated with RT from 1999–2007 and 249 patients treated with radical prostatectomy (RP) from 2005–2007 at Aarhus University Hospital with at least 3 years follow-up time.
Results: A total of 90% (564 patients) returned the questionnaire. 42% (135/323) of the patients treated with RT and 20% (42/214) of the patients treated with RP reported minor or moderate ARD (OR=2.95 (95% CI: 1.97–4.42; $p < 0.001$)). Rectal bleeding (OR=4.81 (95% CI: 2.957.83; $P < 0.0001$), fecal urgency (OR=3.96 (95% CI: 2.66–5.90 $P < 0.0001$) and fecal incontinence (OR=3.16 (95% CI: 2.05–4.88; $P < 0.001$)) were more frequent in the RT group compared to the RP group. A ROC-analysis revealed that the ARD score correlated significantly with QL (sensitivity 68%; specificity 79%).
Conclusion: The risk of rectal bleeding, urgency, and fecal incontinence was significantly higher in RT patients compared to RP patients and a condensed score covering 5 items on ano-rectal dysfunction correlated significantly with patients QL in RT patients.

7029 POSTER

Quality of Life in Patients With Conformal Radiation Therapy for Prostate Cancer − a 5-year Longitudinal Study

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Background: This study was designed to prospectively evaluate the time course of health related quality of life (QoL), anxiety and depression in patients receiving definitive conformal radiation therapy (CRT) for localized prostate cancer.
Materials and Methods: From 11/2001 to 4/2003 78 patients receiving definitive CRT were recruited. QoL, anxiety and depression were evaluated before CRT as well as 12, 24 and 60 months post treatment with the EORTC Quality of Life Questionnaire-C30, the prostate cancer module PR25 and the Hospital Anxiety and Depression Scale (HADS).
Results: At 5 years 18% had developed a biochemical recurrence, 7% experienced distant metastasis and 10% had died (one due to prostate cancer). One and 2 years after CRT all functional QoL scores as well as global QoL were within or slightly above pre-treatment levels. At 5 years physical functioning ($p < 0.001$) and role functioning ($p = 0.004$) dropped below pre-treatment levels, while the other scales were within the baseline. The deterioration was of clinical relevance (difference of $\geqslant$10 points) for physical functioning only. HADS anxiety dropped significantly below pre-treatment values at 1 and 2 years post CRT and reached baseline levels at five years. HADS depression changed in parallel with anxiety but not as pronounced. PR25 urologic symptoms dropped slightly below pre-treatment values at 2 years and reached baseline levels at 5 years. PR25 bowel symptoms did not change significantly over time. Except for emotional functioning patients with a biochemical recurrence had no inferior QoL as compared to men without recurrence. Anxiety, depression and fatigue explained 31% − 64% of the variance of the functional/global QoL scores, while rectal symptoms and urological symptoms explained only 5−20% and 3−24%, respectively. At 5 years 52% of the patients stated to have at least some worries about the future course of their disease. These patients had considerably lower functional and global QoL scores ($\leqslant$20 points) than those without worries ($p < 0.001$). They also displayed much higher anxiety and depression scores ($p < 0.001$).
Conclusions: As compared to pre-treatment levels QoL is minimally impaired at 5 years after CRT for prostate cancer. Anxiety, depression and fatigue explain much more variance of QoL than treatment or disease related symptoms. Worries about the future course of the disease appear to be a problem for a significant fraction of the patients.

7030 POSTER

Outcomes of Intensity-Modulated Radiation Therapy Combined With Neoadjuvant Hormonal Therapy for High-risk Prostate Cancer

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Background: To date, there have been few reports investigating outcomes of high-dose intensity-modulated radiation therapy (IMRT) for a cohort of patients with high-risk prostate cancer treated in combination with neoadjuvant hormonal therapy (NA-HT). We analyzed outcomes of NA-HT followed by IMRT to patients with T1c-T4N0M0 high-risk prostate cancer without adding adjuvant hormonal therapy (A-HT).
Materials and Methods: Between October 2002 and May 2006, 128 Japanese patients with T1c-T4N0M0 adenocarcinoma of the prostate were definitively treated by IMRT. The median age was 71 years old (range 51−83 years old). Pre-treatment prostate-specific antigen (PSA) values ranged between 4 and 179 ng/ml (mean: 35 ng/ml). Among the 128 patients, 25 and 103 cases were classified into high-risk (PSA >20, or Gleason Score >7) T1c-2N0M0 and T3−4N0M0, respectively. NA-HT (3−15 months, median: 6 months) was given to all cases. In principle, 78 Gy in 2 Gy per fraction was delivered to the planning target volume (prostate and proximal two-thirds of the seminal vesicles plus margins), although the dose was reduced to 70 or 74 Gy in 21 patients with unfavorable risks for high-dose radiation such as severe diabetes mellitus and anticoagulant therapy. A-HT was not given to any patients after the completion of IMRT. PSA values were monitored with one- to six-month intervals after the IMRT. Salvage hormonal therapy (S-HT) was essentially started when PSA value exceeded 4 ng/ml in monotonically increasing manner.
Results: Median follow-up period was 68 months (range: 21−93 months). So far, S-HT was initiated to 33 patients, and PSA values at the initiation of S-HT ranged 2.7 to 32.2 ng/ml with a median value of 6.1 ng/ml. The 5-year Caplan-Meyer estimate of the biochemical relapse-free survival rate based on the Phoenix definition was 70.3% (95% CI = 62–78.5%). The S-HT-free survival rate at 5 years was 75.4% (95% CI = 67.5–83.3%). The 5-year prostate cancer-specific and overall survival rates were 98.4% (95% CI = 96.1–100%) and 94.5% (95% CI = 90.5–98.5%), respectively. The 5-year likelihood of developing grade 2−3 late genitourinary and urinary toxicity base on the RTOG criteria were 5.5% (95% CI = 1.5−9.5%) and 6.7% (95% CI = 2.2−12%), respectively. No grade 4 toxicities were observed.
Conclusions: The finding indicated that high dose delivery with IMRT for high-risk prostate cancer is well tolerated and is associated with excellent intermediate-term tumour-control and survival outcomes despite giving no A-HT. This approach of NA-HT plus high dose IMRT with relatively early initiation policy of S-HT may be an alternative for high-risk prostate cancer because three fourths of patients maintained hormone-free status at 5 years as well as excellent survival outcomes.

7031 POSTER

The Toxicity of Dose Escalated External Beam Radiation Therapy After Elective Pelvic Nodal Irradiation − Evaluating the Utility of the QUANTEC Rectal Dose Thresholds

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Background: Elective pelvic nodal irradiation (EPNI) increases the volume of the rectum subjected to moderate doses (40−50 Gy) of EBRT. Some evidence suggests that EPNI may reduce the tolerance of small rectal volumes to high doses. Using data from rectal DVHs this study evaluates the QUANTEC thresholds and the correlation between late rectal bleeding and dose in a cohort of uniformly treated patients.
Material and Methods: ASCENDE RT is a trial for unfavorable risk patients with clinical stage $\leqslant$T3a and PSA $\leqslant$40 ng/mL that combines androgen deprivation therapy (ADT; 12 months total, 8 months neoadjuvant) and EPNI with randomization to either a high dose 3D conformal EBRT boost (Arm 1) or a ^{125}I brachytherapy boost (Arm 2). The study sample consists of all Arm 1 patients who completed treatment by Dec. 31, 2008 (N = 119). After removing identifiers, the planning CTs were copied and rectal contours were outlined by 3 trained observers. To minimize bias, observers were blinded the other contours and to the rectal bleeding status of the subjects. By including the original contours, four independent rectal DVHs were acquired for each patient providing an N of 476 for analysis.
Results: The median age was 67 years. All but one individual received ADT as per protocol; 97% (N = 116) received radiotherapy by protocol (78 Gy