4022 POSTER

The relationship between age and cancer related outcomes in clinical unilateral T3a prostate cancer

C.Y. Hsu[1], S. Joniau[1], R. Oyen[2], T. Roskams[3], H. Van Poppel[1].
[1]KU Leuven, Urology, Leuven, Belgium; [2]KU Leuven, Radiology, Leuven, Belgium; [3]KU Leuven, Pathology, Leuven, Belgium

Objective: According to the guidelines of European Association of Urology (EAU), radical prostatectomy (RP) can be performed in locally advanced disease, PSA serum levels <20 ng/ml, ⩽cT3a, biopsy Gleason score <8 and a life expectancy of more than 10 years. A life expectancy of more than 10 years seems to be an important factor for the treatment of prostate cancer. The purpose of this study is to investigate the relationship between age and outcome in patients with clinical unilateral T3a prostate cancer.
Patients and Methods: Two hundred patients with clinical unilateral T3a prostate cancer detected by digital rectal examination (DRE) underwent RP and bilateral pelvic lymphadenectomy between 1987 and 2004 at our institution. No patient received ADT or RT before RP, while all patients had negative finding on both contrast enhanced computed tomography of the pelvis and bone scan. The patients were categorized into 3 subgroups according to the age at surgery: group 1: ⩽60, group 2: >60 to ⩽70 and group 3: >70 years old. Cox proportional hazard analysis and Kaplan-Meier method were used to analyze biochemical progression free survival (BPFS), clinical progression free survival (CPFS), cancer specific survival (CSS) and overall survival (OS).
Results: Group 1 consisted of 68 patients, group 2 consisted of 96 and group 3 of 36 patients. Between all subgroups, there were no significant differences in preoperative PSA, status of node, surgical Gleason score and pathological stage. Only surgical margin status was significantly different between groups. In the Cox proportional hazard regression analysis, age was not withheld as a significant predictor in BPFS, and CPFS. In the Kaplan-Meier analysis, we found no significant differences between age groups in all survival outcomes (BPFS, CPFS, CSS and OS) (all $p > 0.05$). The projected 5, 10-year CSS and OS are listed in the table.

Survival rate	Age		
	⩽60	>60−⩽70	>70
5-year CSS	97.7%	98.7%	100%
5-year OS	97.7%	94.5%	94.6%
10-year CSS	93.3%	96.9%	82.1%
10-year OS	93.3%	75.8%	66.0%

Conclusion: Age does not influence cancer related outcomes (BPFS, CPFS, CSS) in patients with clinical locally advanced prostate cancer. Thus, RP is an option in motivated healthy elderly patients. However, surgery-related side-effects like urinary incontinence and erectile dysfunction might differ considerably between age-groups. Patient counseling regarding these side-effects is mandatory.

4023 POSTER

Physical and mental health in patients with prostate cancer prior to curatively intended treatment with radical prostatectomy or high-dose radiotherapy

G. Tafjord[1], B. Brennhovd[2], N.K. Raabe[1], K. Axcrona[2], W. Lilleby[1], S.D. Fosså[3], A.A. Dahl[3]. *[1]The Norwegian Radiumhospital, Department of oncology, Oslo, Norway; [2]The Norwegian Radiumhospital, Department of urology, Oslo, Norway; [3]The Norwegian Radiumhospital, Department of clinical cancer research, Oslo, Norway*

Background: As a first step of a prospective study we compared the pre-treatment health in patients with prostate cancer (T1−3 M0). They had been allocated to radical prostatectomy (RP) (NX = 139) or radiotherapy (RAD) (pN0 = 252, N+ = 14) after multidisciplinary clinical evaluation.
Materials and Methods: In 405 consecutive men with a PC diagnosis within the last 12 months, risk group was defined based on clinical T-category, PSA and Gleason score. Physical and mental health was assessed by validated self-report instruments (HADS, Fatigue questionnaire, UCLA-PCI and Eysenck Personality Questionnaire).
Results: Compared to the RP group, patients in the RAD group were significantly older and had longer time from diagnosis to survey. They were significantly more depressed, fatigued and neurotic at a moderate level. Significantly fewer RAD patients were in paid work, more reported comorbidity and more were bothered by sexual problems. The distribution of risk groups was different with more RAD patients having high risk features ($p < 0.001$).

Variables	Surgery	Radiotherapy	P	ES[b]
	Mean (SD)	Mean (SD)		
Pre-treatment age	61.7 (6.2)	65.9 (5.6)	<0.001	0.71
Months from diagnosis to survey[a]	3.9 (2.1)	4.8 (1.7)	<0.001	0.47
EPQ-Neuroticism[a]	1.3 (1.4)	1.7 (1.7)	0.04	0.26
HADS-Anxiety	4.1 (2.7)	4.4 (3.0)	0.40	0.11
HADS-Depression[a]	2.4 (2.2)	3.4 (2.8)	<0.001	0.40
FQ-Total fatigue	12.5 (3.2)	13.5 (3.7)	0.004	0.29
	N (%)	N (%)		
In paid work	83 (61)	74 (28)	<0.001	0.65
Comorbid somatic diseases	35 (25)	105 (40)	0.004	0.32
Bother with:				
urine problems	27 (20)	47 (18)	0.58	0.05
bowel problems	14 (11)	25 (10)	0.76	0.03
sexual problems	21 (16)	105 (40)	0.005	0.55
Risk group:				
low + intermediate	133 (96)	151 (57)	<0.001	0.88
high	6 (4)	115 (43)		

[a]Non-parametric test. [b]Effect size (clinically significant if ⩾0.25).

In a multivariate logistic regression with RP as reference, RAD remained associated with Risk group (OR 7.5), not working (OR 2.4), months to survey (OR 1.2) and pre-treatment age (OR 1.1) (all $p < 0.05$).
Conclusions: The study revealed clinically significant pre-treatment differences between the RP and the RAD group. These encompass risk group distribution, age and pre-treatment health status. Comparing the efficacy and toxicity of RP or RAD, these variables must be accounted for. Due to the differences PC patients allocated to RP are expected to display an improved cancer-related outcome as compared to the RAD group.

4024 POSTER

IMRT for high risk prostate cancer based on sentinel node optimised target volume definition – first clinical results

U. Ganswindt[1], F. Paulsen[1], M. Alber[2], R. Bares[3], A. Stenzl[4], M. Bamberg[1], C. Belka[1]. *[1]University of Tuebingen, Radiooncology, Tübingen, Germany; [2]University of Tuebingen, Radiooncology Biomedical Physics, Tübingen, Germany; [3]University of Tuebingen, Dept. Nuclear Medicine, Tübingen, Germany; [4]University of Tuebingen, Dept. Urology, Tübingen, Germany*

Background: Whereas cure rates for patients (pts.) with low/intermediate risk prostate cancer (PC) are good, the situation is much more problematic in high risk PC. In parallel with risk of distant seeding, the probability of locoregional lymph node metastasis increases. The RTOG 94−13 trial provided evidence that pts. with high risk of pelvic node involvement (risk >15%) benefit from an additional radiotherapy to the pelvic nodes combined with concomitant hormonal ablation. Since the physiological lymphatic drainage is highly variable, the optimal target volume definition for the adjuvant nodes is problematic. To overcome this limitation, we optimised our target volume by including information derived from pelvic sentinel nodes (SN) identification.
Materials: Pts. with proven PC (risk of pelvic node involvement >15%) were included. To permit a three-dimensional localisation of SN transmission- and emission data were acquired using a gamma camera with an integrated X-Ray device (Millennium VG & Hawkeye®, GE) 1.5−3 hours after injection of ~250 MBq 99mTc-Nanocoll. IMRT planning was done with Hyperion® based on 3 CT's, definition of clinical/planning target volumes (CTV/PTV) and risk organs (rectum, colon, small bowel, bladder, hips) with image fusion of 3 data sets. The detected SN were included into the pelvic CTV additionally. 5−7 gantry angles were used. Dose prescriptions were 50.4 Gy (1.8 Gy daily) to the pelvis and 70.0 Gy (2 Gy daily) to the prostate/seminal vesicles. All pts. received neoadjuvant, concomitant and adjuvant hormonal ablation treatment (3 years).
Results: Since 08/2003 41 pts. (cT1b-4 cN0M0 stage) were treated. No pt. had undergone a staging lymphadenectomy, 5 pts. had undergone transurethral resection. The median initial PSA level was 20.1 (mean 27.5) ng/ml, the mean Gleason Score was 7. With the exception of one all pts. had detectable SN, the numbers of SN per patient ranged from 0 to 13 (median 6). A total of 234 SN could be identified. 31 of 41 pts. (total 77/234 SN, 32.9%) showed SN localisations (perirectal/sacral, ext. iliac, paraaortic) that probably would not have been covered by conventional CTV definition ('geographic miss'). Acute gastrointestinal (GI) and genitourinary (GU) toxicity (RTOG): GU: grade 0 3/41, grade 1 24/41, grade 2 14/41 pts.; GI: grade 0 1/41, grade 1 30/41, grade 2 10/41 pts., no toxicity grade 3 or 4 was seen. With a median follow up of 10.5 month no late toxicity > grade 1 occurred.
PSA outcome: 3 month after IMRT median 0.1 (mean 0.45) ng/ml, 1 year after IMRT median 0.14 (mean 0.21) ng/ml (ongoing hormonablative therapy).