

Conclusions: Hypofractionated stereotactic body radiotherapy with CyberKnife boost and pelvis radiation therapy for prostate cancer has an acceptable toxicity profile and favorable biochemical response in both 3-DRT+CK and IMRT+CK group, but toxicity was more favorable tendency in IMRT+CK treatment group. Additional follow-up is required to better evaluate potential toxicity and control rate.

EP-1243

Quality of life in prostate cancer patients treated with CyberKnife stereotactic body radiotherapy

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Purpose/Objective: The aim of the study was to assess the quality of life in prostate cancer patients during the stereotactic body radiotherapy treatment.

Materials and Methods: 91 low and intermediate risk localized prostate adenocarcinoma patients were irradiated using the CyberKnife Radiosurgical System. The prescription dose was 35- 36,25 Gy in five fractions. The assessment of the quality of life was measured using the EORTC QLQ-C30 (v 3.0) questionnaire and a prostate-specific EORTC QLQ-PR25 module. Patients were asked to fill the form before and at the end of the treatment. The further study is designed to assess the quality of life during the 2-year follow-up.

Results: No significant differences were seen in comparison of questions measuring Global Health Status before and after the treatment (normalized score 60 vs 57). Among all the assessed symptoms only the intensification of urinary bothers and diarrhoea were found as statistically significant. The quality of sexual life has not significantly decreased, however among the sexual-specific questions the highest percentage of missing data was observed (39%). The tendency of improving the level of emotional functioning after the radiotherapy was also noticed.

Conclusions: The study revealed that in spite of intensification of urinary and bowel symptoms the global quality of life has not significantly changed during the treatment what makes the CyberKnife stereotactic body radiotherapy a well-tolerated method.

EP-1244

Local control is improved with HDR-boost for localised prostate cancer

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Purpose/Objective: Features of high-dose-rate brachytherapy (HDR) correspond to biological data that suggests hypofractionation as the most suitable way to achieve high-dose treatment of prostate cancer. Evaluated were our results of combined HDR-boost treatment (HDR-B) and 3-dimensional conformal external beam radiotherapy (3DCRT).

Materials and Methods: From October 2006 through April 2011 88 patients with localized prostate cancer received HDR-B of either 3x7 Gy (27/88 patients) or 3x6 Gy (61/88

patients) delivered through one (80/88 patients) or two (8/88 patients) procedures and CT (30/88 patients) or MR (58/88 patients) based planning. Together with 50.4 Gy of 3DCRT that in 68/88 patients with increased risk for regional metastases (2/3PSA + ((GS - 6) x10) >13%) included also pelvic nodes. Androgen deprivation (AD) was given for a mean 24 months to 81/88 patients. Results were compared to similar group of 62 successive patients treated solely with 3DCRT (TD 75.6 Gy/42fx) and AD (in 58/62 patients for mean 33 months). ¹⁸F-Choline PET-CT was used to identify site of biochemical relapse.

Results: HDR-B treatment distinguished by significantly lower local failure rate: 8/62 vs. 1/88 patients (p=0.002) - the improvement in local control was most distinctive in high-risk patients: 7/43 vs. 1/40 patients (p=0.024). Improvement in 5-year progression-free survival was not significant (97% and 90% for low/intermediate-risk and 82% and 75% for high-risk patients). None of the treatment parameters inclusive dose of treatment influenced results of HDR-B.

Conclusions: Results proved the efficacy of HDR-B. PET-CT gives insight of the site of biochemical relapse that is needed for the refinement of HDR-B.

EP-1245

The impact of prostate cancer on the sex lives of men-who-have-sex-with-men (MSM): a qualitative study

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Purpose/Objective: Over 1,200 Canadian MSM are diagnosed with prostate cancer (PCa) each year, and over 8,700 MSM have been living with the disease for the past 10 years. With early PCa diagnosis, the impact of PCa on sexual function has become increasingly important. However, there are few studies examining the impact of PCa treatments on sexual function for MSM.

Materials and Methods: MSM were recruited through advertising in newspapers, doctors' offices, and word of mouth. Participants under the age of 70 treated with curative intent for non-metastatic prostate cancer were eligible. Individual 45-60 minute semi-structured interviews took place face to face or via internet-based video conferencing. Sexual function, sexual quality of life, and relationships before and after treatment, were discussed. Interviews were recorded, transcribed, coded independently by the investigators, and analyzed with NVivo.

Results: Forty three participants were screened with fifteen eligible participants (age range = 58-69, mean = 65). The age of diagnosis ranged from 55-67 (mean = 58) and the mean time from treatment to interview was 6.6 years. Treatment modalities included radical prostatectomy (n=8), external beam radiation (n = 3), brachytherapy (n = 3), and combined radical prostatectomy and external beam radiation (n=1).

Sexual practices before treatment ranged from masturbation, oral sex, and anal sex in order of frequency, and remained the same after treatment. Overall sexual satisfaction decreased, especially for participants with urinary incontinence and erectile dysfunction. Many men described orgasms after treatment as feeling 'incomplete' due to lack of ejaculate. Some single men or men in open relationships reported a loss of confidence or difficulty meeting other men after treatment. More information from physicians could have prepared participants to better cope with side effects; however, participants showed resilience by continuing to engage in sexual activities and had a positive view of their life after treatment.

Conclusions: The adverse impact of PCa treatments on sexual function for MSM can be a barrier to developing new relationships. To fulfil the principle of informed consent, MSM should be made aware of how PCa treatments can affect their sex lives. We intend to continue this research in order to develop a validated questionnaire to study sexual quality of life in MSM with prostate cancer and help guide the best treatment choices when MSM are diagnosed with PCa.

EP-1246

Effect on anemia of hormonal and radiation therapy in prostate cancer

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Purpose/Objective: The association of androgen deprivation therapy (ADT) to radiotherapy (RT) improves prognosis in patients with high-intermediate risk prostate cancer (PC). Luteinising hormone-releasing hormone (LHRH) agonists are the standard of care in these patients even if this treatment is associated with several side effects. Chronic anemia due to ADT with LHRH agonists is one of these. However, analyses focused on the impact of adjuvant ADT on chronic anemia in patients with PC are lacking. In particular only few studies on the impact of different hormonal treatments (LH-RH agonists vs antiandrogen) or different durations of hormone therapy (short-term vs. long-term) on the blood count are available. The purpose of this analysis is to evaluate the impact of adjuvant ADT on anemia.

Materials and Methods: Data of patients with PC at intermediate-high risk receiving RT plus adjuvant hormone therapy (intermediate risk: 6 months; high risk: 24 months) were collected. Hemoglobin level was assessed before treatment and then at 2 and 5 years after radiotherapy. Hemoglobin mean values were calculated and these were compared using t-test based on type of hormone therapy (LHRH agonists vs antiandrogen) and duration of hormone therapy (6 months vs. 2 years).

Results: One hundred eighty-six patients were evaluated. The results of statistical analysis are shown in the Table.

	Hb (2 years)	p =	Hb (5 years)	p =
type of hormonal therapy				
LH-RH agonists	13.4 +/- 1.4 (107)	< 0.001	13.5 +/- 1.7 (35)	0.131
Antiandrogen	14.2 +/- 1.2 (79)		14.2 +/- 1.7 (24)	
duration of hormonal therapy				
6 months	13.9 +/- 1.5 (89)	0.139	13.8 +/- 1.8 (23)	0.799
24 months	13.6 +/- 1.3 (96)		13.9 +/- 1.7 (36)	

[The numbers in parentheses indicate the number of evaluable patients]

Conclusions: In patients undergoing radiotherapy plus adjuvant hormonal therapy for PC, hemoglobin levels were significantly lower in the group treated with LH-RH agonists after 2 years. Similar values were recorded after 5 years but the difference was not statistically significant, probably because of the smaller sample size. In contrast, no difference was observed based on duration of adjuvant therapy.

EP-1247

Comparison of two systems to calculate the margins for expansion from CTV to PTV in prostate cancer patients

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Purpose/Objective: To compare two systems to calculate the lateral, longitudinal and vertical margins for expansion from CTV to PTV in prostate cancer patients.

Materials and Methods: 29 consecutive prostate cancer patients treated with IMRT were included. A Cone Beam CT was performed the first 4 days of treatment. The average of the displacements regarding the reference image was determined and was checked by another CBCT in the fifth day. Subsequently a weekly CBCT test was performed. For each patient the deviations values were obtained in the three directions and the average value and standard deviation of these errors was calculated ($S_{>}$). To deal with random errors, the first 5 CBCT errors were corrected by subtracting the mean value of the systematic errors