P037 The role of radiation therapy to the primary tumor in patients with metastatic prostate cancer

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Introduction & Objectives: The standard treatment for patients with hormone-sensitive metastatic prostate cancer (mPC) is androgen deprivation therapy (ADT). Several studies reported a clinical outcomes benefit for treatment of the primary prostatic tumor in mPC. The objectives are to report the efficacy and toxicity of radiation therapy (RT) to the primary tumor in patients with hormone-sensitive mPC treated in our hospital.

Materials & Methods: Between January 2017 and March 2020, 22 patients with hormone-sensitive mPC were treated and assessed retrospectively in our hospital. All patients received standard treatment with ADT. We compared two groups, patients with RT to the primary tumor after mPC diagnosis (RT group) and without RT (non RT group). RT group received intensity modulated radiation therapy (IMRT) to the primary tumor and the median dose delivered were 70 Gy in 28 fractions. Non RT group underwent systemic therapy (including abiraterone acetate plus prednisone, docetaxel , enzalutamide o apalutamide). We compared clinical outcomes, including progression-free survival (PFS) and overall survival (OS) between two groups. PFS and OS were estimated using the Kaplan-Meier method. Acute and late toxicities were prospectively reported and scored according to the Radiation Therapy Oncology Group (RTOG).

Results: Median age was 69 years and median follow-up after initiation of treatment (RT or systemic therapy) was 18 months. Of the 22 patients, 6 (27,3%) were treated with RT to the primary tumor after mPC diagnosis (RT group) and 16 (72,7%) underwent systemic therapy (non RT group). Median prostate-specific antigen of 61,14 ng/mL, and median Gleason score of 8. 6 (30%) patients were staged as T4A, 5 (25%) T3B, 4 (20%)T3A, 3 (15%)T2C, 1 (5%) T2A and 1 (5%) T1C. The patients had a median of one metastases (range 1–4). There was significant difference in PFS between RT group vs non RT group. PFS was significantly higher in RT group (log-rank P= 0.032), the median PFS was 37 months for the RT group and 29 months for the non RT group. Although OS tended to be higher in RT group, it was not significant (log-rank P=0.282). No significant differences in PSA response at 1 year, acute or late toxicities or progression rates were observed between both groups. The rates of acute toxicities related with RT in grade 1-2 were 66,6% (4 patients) and no grade 3 or 4 were detected. The rates of acute toxicities in non RT group in grade 1-2 and ³ grade 3 were 68,8%(11 patients) and 6,3%(1 patient), respectively. At the last follow-up, grade 1 late gastrointestinal toxicity was detected in one patients in RT group. Two patients died due to prostate cancer and one died for other causes in non RT group.

Conclusions: RT might improve clinical outcomes in selected patients with mPC. However, longer follow-up and randomized studies are needed to confirm results and consider it as standard.