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SBRT Differs Systemic Therapy in Prostate Cancer with Lymph Node Oligometastases

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Abstract
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Abstract

Objectives:

To evaluate the results of the use of stereotactic body radiation therapy (SBRT or SABR) for prostate cancer (PC) lymph node oligometastases, in terms of biochemical control, local control and toxicity.

Methods:

Between 2008 and 2022 87 patients were treated in our institution with SBRT for 126 oligometastatic lymph node from various origins. A retrospective review was done to identify clinical results, in the subgroup of PC.
Between 2008 and 2022, 30 patients presenting with 1 to 4, synchronous or metachronous, lymph node metastasis from PC were treated with SBRT technique administrating 36 Gy in 3 fractions of 12 Gy. Follow-up for biochemical, local or distant control was assessed periodically by PSA testing and imaging techniques: CT, PETscan and/or MRI. Toxicity and radiologic response were assessed in the scheduled follow-up using conventional (RTOG, RECIST) criteria. Time to event endpoints was calculated using Kaplan-Meier method.

Results:

30 patients with 49 metastatic lymph nodes from prostate cancer were treated between 2015 and 2022. Median age was 68 years old (56-79). Median Gleason score 7 (5-10). Median PSA value pre-SBRT: 4.1 ng/ml (0.01-96). 17 had previous prostatectomy and 39 had EBRT or BT to prostate or postoperative to prostate bede. 10 had concomitant ADT. 24 has diagnostic PET Choline o PSmA. Lymph node locatios was: 39 in pelvis, 8 paraortic y 2 mediastical, this 2 with confirmatory biopsy. 6 patients had also bone oligometastasic lesion that were further treated also with SBRT. 4 patients had later metachronic lymph node relapse that was rescued with a new SBRT procedure. The mean irradiated lymph node volume was 3.9 cm3 (1.4-112). Median follow-up was 18 months (3-65). 26 had follow-up longer than 6 months and we evaluate this patients. Control in the irradiated volume is 100% at 1 and 2 years. Lymph node control outside irradiated volume is 87 %, with 4 patients undergoing further SBRT (metachronic cases). Biochemical control is 87 % and 62.5 % at 1 and 2 years, median PSA has drop from 4.1 ng/ml to 3.7 ng/ml in the first year. Prostate cancer-related survival is 100 % at 1 and 2 years. Acute toxicities were gastrointestinal grade 1 or 2 and occurred in 10% of all cases. No other or greater grade toxicities were identified.

Conclusion(s):

The low toxicity and high local control observed in our series, add to the evidence of a possible role of SBRT in the management of selected patients affected by oligometastatic lymph node prostate cancer relapse, The good biochemical control results might lead to a decrease or delay in the use of systemic/hormonal treatments in this subset of patients. Longer follow up is needed to validate if there is also a favorable impact on survival.