P083 Outcomes and toxicity of Stereotactic Body Radiation Therapy (SBRT) for oligometastatic prostate cancer: A new standard of care?

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Introduction & Objectives: SBRT is a method of external beam radiotherapy (EBRT) that precisely delivers a high irradiation dose to an extracranial target in one or few treatment fractions. These characteristics make it a logical choice for metastasis-directed therapy in prostate cancer. The main endpoint of this analysis is to assess the impact of SBRT on disease control. The secondary objective is to evaluate its toxicity.

Materials & Methods: Retrospective cohort study selecting patients with oligometastatic prostate cancer who received SBRT for metastases in a single institution between 2017 and 2022. Forty-seven patients, representing a total of 51 metastatic lesions were selected. The median of the follow-up period was 90 months from diagnosis (interquartile range, IQR, 74) and 15 months from SBRT (IQR 29). It was delivered between 1 to 3 fractions with a dose between 12 to 30Gy.

Results: Two patients (4.3%) developed local progression with a median of 5.50 months. Distant progression occurred in 9 patients (20.5%) with a median of 4 months. 71.4% of lesions presented a radiological response after SBRT. 2 deaths occurred, none of them were related to prostate cancer. An increased risk of disease progression after SBRT was found in patients who developed castration-resistant prostate cancer (CPRC): HR 16.44, CI95% [3.48; 77.67]; p-value < 0.001. A significant drop in the PSA value after 6 months of treatment was identified (2.20ng/ml vs 0.25ng/ml, p-value 0.014). 10 patients (22.7%) developed biochemical progression after SBRT, with a median of 4 months. Eight patients presented acute toxicity (mild pain in all cases). Four patients (9%) developed chronic toxicity: 3 mild pain and 1 rectovesical fistula. Any patient presented a grade 4 toxicity neither needed to stop the treatment.

Patients' characteristics (n = 47)	
Age at diagnosis (y/o)	63.5 (45-75)
CPRC	10 patients (22.7%)
Risk	
Low	2 (4.5%)
Intermediate (favorable)	10 (22.7%)
Intermediate (unfavorable)	5 (11.4%)
High	27 (61.4%)
Primary treatment	
EBRT	24 (54.5%)
Surgery	18 (40.9%)
Brachytherapy	2 (4.6%)

Treatment characteristics (n = 51)	
Age at SBRT (y/o)	69 (51-84)
Type of lesion	
Bone	33 (64.7%)
Nodal	18 (35.3%)
Scheme	
12Gy/1fx	11 (21.6%)
16Gy/1fx	1 (2%)
18Gy/1fx	16 (31.4%)
20Gy/1fx	1 (2%)
21Gy/1fx	1 (2%)
24Gy/1fx	5 (9.8%)
27Gy/3fx	3 (5.9%)
30Gy/3fx	13 (25.5%)
Treatment after biochemical recurrence	
SBRT only	5 (9.8%)
SBRT + androgen deprivation therapy (ADT)	31 (60.8%)
SBRT + ADT + second-generation antiandrogen	15 (29.4%)

Conclusions: SBRT is a considerable option for oligometastatic patients due to its excellent local and biochemical control with a negligible toxicity profile. The rate of distant progression means that the role of SBRT must be reassessed with the aim of delaying systemic therapy or as part of a combination treatment.