Radiation prior to combination-immunotherapy in patients with metastatic renal cell carcinoma (mRCC) and bone metastases

Abstract#N20

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Background

- Retrospective studies and post-hoc analyses have shown that patients with metastatic renal cell carcinoma (mRCC) and bone metastasis have worse outcomes.
- A synergistic interaction between radiation (XRT) and Immunotherapy (IO) has been postulated.
- We performed a retrospective review of patients with bone metastasis treated with immunotherapy (IO)-based combination therapy, with and without prior XRT.

Methods

- 28 patients with mRCC and bone metastasis treated with IO-based combinations at Vanderbilt-Ingram Cancer Center were identified.
- Data cutoff was August 31,2021.
- Patients who received XRT within six months of IO were included as having prior-XRT.
- Descriptive analyses were used to present patient baseline characteristics.
- Progression free survival (PFS)/Overall survival (OS), and objective response rate (ORR) were compared with Kaplan Meier and chi square statistics, respectively.

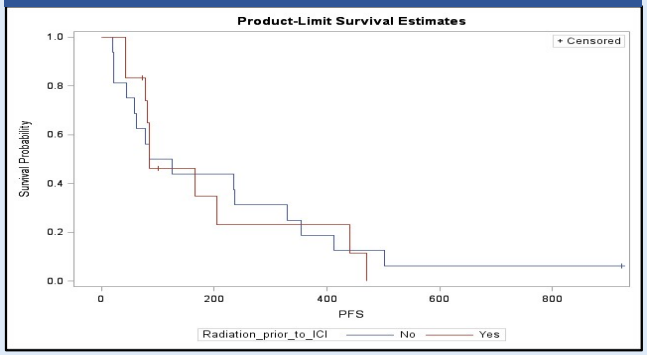
Patient Characteristics

Characteristic	Prior XRT (n=12)	No prior XRT (n=16)
Median Age	56 (range 50-74)	57 (range 51-78)
Clear cell histology	10/12 (83%)	13/16 (81%)
IMDC risk group	1 Favorable 9 Intermediate 2 poor	2 Favorable 12 Intermediate 2 Poor
Prior nephrectomy	5/12 (42%)	13/16 (81%)
Prior systemic therapy	4/16 (25%)	3/12 (25%)

Immunotherapy combinations patient received

Regimen Received	Prior XRT	No Prior XRT
ipilimumab/Nivolumab	9/12	8/16
Pembrolizumab/Axitinib	2/12	8/16
Avelumab/Axitinib	1/12	

Kaplan-Mier estimates for progression free survival



Results

- The ORR among patients in the no-XRT group was 19% (3/16) compared with 17% (2/12) in the prior-XRT group; odds ratio was 0.87 (0.12-6.21; p=0.89).
- The median PFS was 3.5 months (range, 1.5-11.0) in the no-XRT group and 2.8 mo (1.4-14.7) in the prior-XRT group; HR 1.05 (0.46-2.3; p=0.90.)
- The median OS was 18.8 mo (4.7-42.5) in the no-XRT group, and the mOS was not reached (7.4-NR) in the prior-XRT group [hazard ratio (HR) was 0.20 (0.03-1.62; p=0.13)]

Conclusions

Overall clinical outcomes were poor in this population of patients with mRCC to bone.

No major differences in clinical outcomes were observed in patients based on prior XRT.

Further studies are needed to evaluate the role of XRT prior to immunotherapy.

References

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