

*Il trattamento palliativo del paziente metastatico: quale è la migliore scelta terapeutica?*

Ho pensato che potesse essere interessante trovare un unico tema di cui parlare e presentare l'evidenza recente. Credo che noi, giovani radioterapisti, dobbiamo essere di forte traino anche in questo argomento "spinoso". Dobbiamo cercare di portare innovazione e freschezza anche per questi pazienti.

**I Paper:**

Lehrer EJ, Kowalchuk RO, Gurewitz J, Bernstein K, Kondziolka D, Niranjana A, Wei Z, Lunsford LD, Fakhoury KR, Rusthoven CG, Mathieu D, Trudel C, Malouff TD, Ruiz-Garcia H, Bonney P, Hwang L, Yu C, Zada G, Patel S, Deibert CP, Picozzi P, Franzini A, Attuati L, Prasad RN, Raval RR, Palmer JD, Lee CC, Yang HC, Harmsen WS, Jones BM, Sharma S, Ahluwalia MS, Sheehan JP, Trifiletti DM.

*Concurrent Administration of Immune Checkpoint Inhibitors and Single Fraction Stereotactic Radiosurgery in Patients With Non-Small Cell Lung Cancer, Melanoma, and Renal Cell Carcinoma Brain Metastases is Not Associated With an Increased Risk of Radiation Necrosis Over Nonconcurrent Treatment: An International Multicenter Study of 657 Patients.*

Int J Radiat Oncol Biol Phys. 2023 Jan 21:S0360-3016(23)00057-3. doi: 10.1016/j.ijrobp.2023.01.017. Epub ahead of print. PMID: 36690161.

**Highlights**

- The aim was to report data about radiation necrosis when stereotactic radiosurgery and immune checkpoint inhibitors are administered concomitantly.
- Only patients with brain metastases from primary non-small cell lung cancer, renal cell carcinoma, or melanoma were considered for the analyses.
- The sample size was 657 with 4182 brain metastases across 11 international institutions.
- The median follow-up was 12.8 months and 14.1 months for the concurrent and nonconcurrent groups, respectively.
- 1- and 2-year rates of any grade radiation necrosis were 6.4% and 9.9%, respectively. 1- and 2-year rates of symptomatic radiation necrosis 4.8% and 7.2%, respectively.
- V12 Gy of normal brain was the dominant variable predictive of radiation necrosis; especially when it was >20 cc ( $P < 0.0001$ )
- The use of SRS and ICI results in a low risk of any grade RN and SRN. This risk is not increased with concurrent administration. Three risk groups based on V12 Gy were identified, which clinicians may consider to further reduce rates of RN.

## II Paper

Eufemon Cereno R, Mou B, Baker S, Chng N, Arbour G, Bergman A, Liu M, Schellenberg D, Matthews Q, Huang V, Mestrovic A, Hyde D, Alexander A, Carolan H, Hsu F, Miller S, Atrchian S, Chan E, Ho C, Mohamed I, Lin A, Berrang T, Bang A, Jiang W, Lund C, Pai H, Valev B, Lefresne S, Tyldesley S, Olson RA.

*Should organs at risk (OARs) be prioritized over target volume coverage in stereotactic ablative radiotherapy (SABR) for oligometastases? a secondary analysis of the population-based phase II SABR-5 trial.*

Radiother Oncol. 2023 Feb 22;182:109576. doi: 10.1016/j.radonc.2023.109576. Epub ahead of print. PMID: 36822355.

### Highlights

- This study evaluated the clinical impact of target coverage sacrifice to prioritize organs-at-risk during SABR planning in the population-based SABR-5 trial.
- PTV coverage was reduced as needed to meet OAR constraints.
- 549 lesions from 381 patients were assessed and 196 (36 %) lesions were under-covered.
- The lowest uncovering was in spine lesions (n = 104).
- On multivariable analysis, under-coverage did not predict for worse Local Recurrence (HR 0.48, p = 0.37) or Progression-Free Survival (HR 1.24, p = 0.38).
- Largest lesion diameter, colorectal and ‘other’ (non-prostate, breast, or lung) primary predicted for worse Local Recurrence. Largest lesion diameter, synchronous tumor treatment, short disease-free interval, state of oligoprogression, initiation or change in systemic treatment, and a high PTV Dmax were significantly associated with Progression-Free Survival.
- Combined with low toxicity rates, this study supports the practice of prioritizing OAR constraints during oligometastatic SABR planning.

### III Paper

Chiloiro G, Boldrini L, Romano A, Placidi L, Tran HE, Nardini M, Massaccesi M, Cellini F, Indovina L, Gambacorta MA.

*Magnetic resonance-guided stereotactic body radiation therapy (MRgSBRT) for oligometastatic patients: a single-center experience.*

Radiol Med. 2023 May;128(5):619-627. doi: 10.1007/s11547-023-01627-4. Epub 2023 Apr 20. PMID: 37079221; PMCID: PMC10116467.

#### Highlights

- The aim of this retrospective, monoinstitutional study is to evaluate the feasibility and clinical benefit of Magnetic resonance-guided stereotactic radiotherapy (MRgSBRT) in the setting of oligometastatic patients.
- With a Median follow-up time was 14 months (range: 3–46 months), from February 2017 to March 2021, 59 consecutive patients with a total of 80 lesions were treated.
- The 12-month Local Progression-Free Survival and Progression-Free Survival rates were 70% and 23%, while 24-month Overall Survival rate was 93%.
- Complete Response and Partial Response as well as Stable Disease were observed in 30 (37.5%), 7 (8.75%), and 17 (21.25%) lesions, respectively.
- No acute toxicity was reported, whereas late pulmonary fibrosis G1 was observed in 9 patients (15.25%)

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