Renal cell carcinoma intracranial metastases

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see also Clear cell renal carcinoma intracranial metastases.

Ninety-one RCC BM patients underwent SRS to 212 BMs, with a median follow-up of 38.8 mo for surviving patients. The median intracranial progression-free survival and OS were 7.8 (interquartile range [IQR] 5.7-11) and 21 (IQR 16-32) mo, respectively. Durable local control of 83% was achieved at 12 mo after SRS, and 59% of lesions initially meeting the radiographic criteria for progression at 3-mo evaluation would represent pseudoprogression at 6-mo evaluation. A comparison of genomic alterations at both the gene and the pathway level for BM+ patients compared with BM- patients revealed phosphoinositide 3-kinase (PI3K) pathway alterations to be more prevalent in BM+ patients (43% vs 16%, p = 0.001, q = 0.01), with the majority being PTEN alterations (17% vs 2.7%, p = 0.003, q = 0.041).

This is the largest study investigating genomic profiles of RCC BMs and the only such study with annotated intracranial outcomes. SRS provides durable in-field local control of BMs. Recognizing post-SRS pseudoprogression is crucial to ensure appropriate management. The incidence of PI3K pathway alterations is more prevalent in BM+ patients than in BM- patients and warrants further investigation in a prospective setting.

Radiotherapy outcomes for treating brain metastases in kidney cancer patients at a single large referral center. We found that radiation provides good control of brain tumors, and certain genetic mutations may be found more commonly in patients with brain metastasis.

The treatment of patients with brain-spread renal cell carcinoma (RCC) is an unmet clinical need, although more recent therapeutic strategies have significantly improved RCC patients' life expectancy. Our multicenter, retrospective, observational study investigated a real-world cohort of patients with brain metastases (BM) from RCC (BMRCC).

Patients and methods: A total of 226 patients with histological diagnosis of RCC and radiological evidence of BM from 22 Italian institutions were enrolled. Univariate and multivariate models were performed to investigate the impact of clinicopathological features and multimodal treatments on

both overall survival (OS) from the BM diagnosis and intracranial progression-free survival (iPFS).

Results: The median OS from the BM diagnosis was 18.8 months (interquartile range: 6.2-43 months). Multivariate analysis confirmed the following as positive independent prognostic factors: a Karnofsky Performance Status >70% [hazard ratio (HR) = 0.49, 95% confidence interval (CI) 0.26-0.92, P = 0.0026] and a single BM (HR = 0.51, 95% CI 0.31-0.86, P = 0. 0310); in contrast, the following were confirmed as worse prognosis factors: progressive extracranial disease (HR = 1.66, 95% CI 1.003-2.74, P = 0.00181) and only one line of systemic therapy after the BM occurrence (HR = 2.98, 95% CI 1.62-5.49, P = 0.029). Subgroup analyses showed no difference in iPFS according to the type of the first systemic treatment [immunotherapy (IT) or targeted therapy (TT)] carried out after the BM diagnosis (HR = 1.033, 95% CI 0.565-1.889, P = 0.16), and revealed that external radiation therapy (eRT) significantly prolonged iPFS when combined with IT (10.7 months, 95% CI 4.9-48 months, P = 0.0321) and not when combined with TT (9.01 months, 95% CI 2.7-21.2 months, P = 0.59).

Conclusions: Our results suggest a potential additive effect in terms of iPFS for eRT combined with IT and encourage a more intensive multimodal therapeutic strategy in a multidisciplinary context to improve the survival of BMRCC patients [1].

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