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Synergistic potential of cabozantinib and radiotherapy in advanced renal cell carcinoma by site of irradiation

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Background

Cabozantinib is an established treatment for metastatic renal cell carcinoma (mRCC) and **may be continued beyond limited radiological progression in selected patients**.

In oligoprogressive disease, **site-directed radiotherapy (RT) may prolong systemic treatment benefit.**

We explored whether progression-free survival (PFS) differed **according to the anatomical site of irradiated oligoprogression.**

Methods

This retrospective multicentre analysis included **patients with mRCC** receiving **cabozantinib** who underwent **RT for oligoprogressive disease,** defined as no more than **three new or progressive lesions at restaging**. To avoid double-counting patients treated at multiple anatomical sites, irradiated site was analysed at the patient level using mutually exclusive categories:

bone-only RT, **brain-containing** RT, **visceral/nodal** RT, and **mixed** RT, defined as bone plus visceral/nodal irradiation.

Visceral/nodal sites included lung, thyroid, adrenal, lymph-node, and pancreatic metastases.

- PFS1 was defined from cabozantinib initiation to RT-treated oligoprogression.
- PFS2 was defined from RT to subsequent progression or death.
- PFS outcomes were summarized as median months with interquartile ranges and compared descriptively across groups.

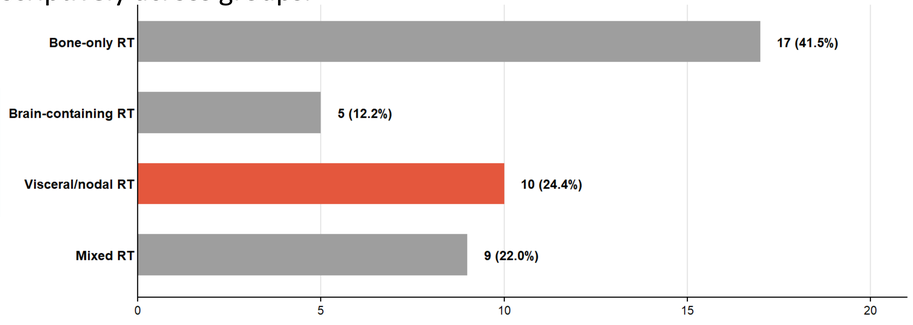


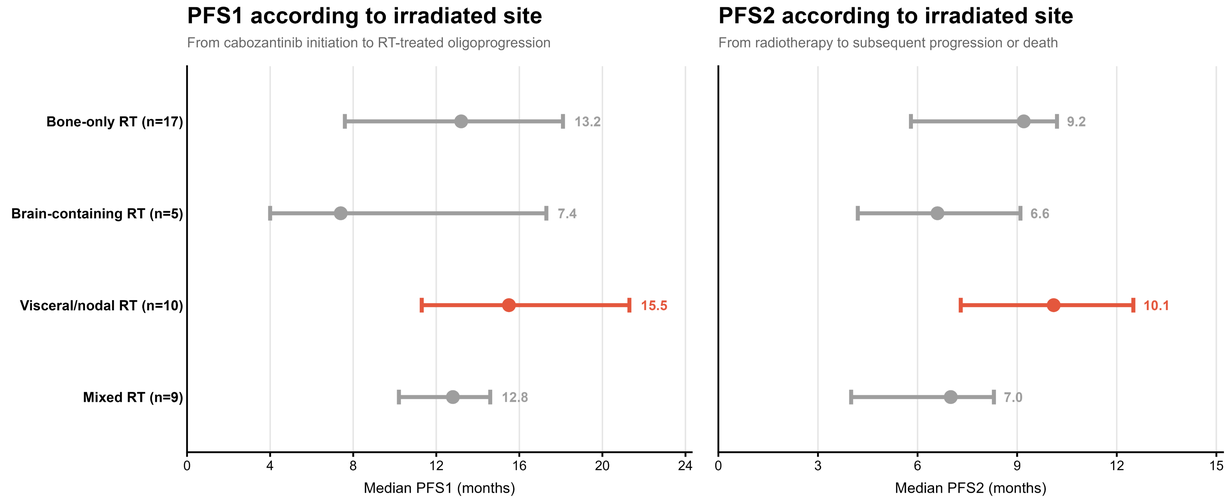
Figure 1: Distribution of irradiated-site categories

Results

Forty-one patients had available data on irradiated metastatic site.

Bone-only RT represented the most frequent category (*Figure 1*).

- Median PFS1 differed numerically across irradiated-site groups and was **13.2** months for bone-only RT, **7.4** months for brain-containing RT, **15.5** months for visceral/nodal RT, and **12.8** months for mixed bone plus visceral/nodal RT.
- Median PFS2 was **9.2** months, **6.6** months, **10.1** months, and **7.0** months, respectively; notably, **patients receiving RT to visceral/nodal oligoprogression showed the most favourable post-RT outcome.**



Conclusions

In this exploratory multicentre cohort, **post-RT disease control during cabozantinib varied according to the anatomical site of irradiated oligoprogression.**

- **Visceral/nodal** oligoprogression was enriched for prolonged post-RT disease control, suggesting that **this subgroup may be particularly suitable for site-directed RT with continued cabozantinib.**

These hypothesis-generating findings require validation in larger prospective cohorts.

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