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Exploratory Analysis of Early Response Signals Using Targeted Therapies for the Treatment of Advanced Carcinoid Tumor of the Kidney

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Background: Carcinoid tumors of renal origin represent a very rare primary neoplasm of the kidney, with very limited data on clinical management, particularly on the development of novel therapeutics.

Methods: Given its rarity, we evaluated the characteristics and outcomes in patients with renal carcinoid with an emphasis on treatment regimens on phase II trials using targeted therapies.

Results: Nine renal carcinoid patients (7 female, 2 male; median age 45.7 yrs) were evaluated in the Gastrointestinal Medical Oncology clinic. 6 patients had recurrence after radical nephrectomies of their primary renal lesions; all demonstrated carcinoid symptoms. Five of 9 patients received therapy with one or more targeted agents, specifically everolimus (mTOR inhibitor), pazopanib (multikinase inhibitor), cixutumumab (IGF-1R inhibitor), or bevacizumab (targeting antiogenesis). Two patients had a partial response. Patient #1 attained a PR for 19.5 months on everolimus plus depot octreotide; on progression he received single-agent pazopanib on a phase II trial, again attaining a PR lasting 17.3 months before progression. Patient #3 received bevacizumab for 24 months with 42% decrease in target lesions. Patient #2 received pasireotide with SD for 9.2 months and resolution of refractory carcinoid symptoms. Patient #7 received cixutumumab with everolimus with a 19% decrease in target lesions prior to progression of bone lesions after 5.1 months. This patient then maintained stable disease on bevacizumab for 9.3 months.

Conclusion: Here we report our exploratory analysis on the use of targeted therapies in advanced renal carcinoid tumors. Overall patients tolerate therapy without high grade toxicities. Early data shows clinical efficacy and biologic activity of inhibitors of mTOR, IGF-1R, multikinase, and angiogenesis. Given the lack of consensus on treatment, this analysis presents seminal data on a role for targeted agents for unresectable renal carcinoid tumors.