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Concurrent Everolimus with Hepatic Transarterial Bland Embolotherapy (Evero-Embo) in Patients with Metastatic Well Differentiated Neuroendocrine Tumor (NET)

L. Anthony[1,2,3], G. Gabriel[4], A. Chauhan[5], R. El Khouli[4]; 1Internal Medicine/Medical Oncology, University of Kentucky Research Foundation, KY/United States of America, [2]Internal Medicine/Medical Oncology, University of Kentucky, KY/United States of America, [3]Internal Medicine/Medical Oncology, University of Kentucky, Lexington, KY/United States of America, [4]Radiology, University of Kentucky, Lexington, KY/United States of America, [5]Director of NET Theranostics, University of Kentucky, Lexington, KY/United States of America

BACKGROUND: Intra-arterial therapies improve treatment responses with predictable toxicities in NET patients. Concomitant anti-neoplastic therapies are commonly held 2-4 weeks prior to and after procedures. Embolotherapy induces anoxic injury while everolimus affects cell growth, proliferation and survival. Combining these 2 modalities may result in debulking hepatic disease and/or delaying progression. Safety and response rates of concurrent use of everolimus with bland hepatic transarterial embolization (HAE) have been reported (NANETS 2019). Historically, bland HAE and TACE (transarterial chemoembolization) have median hepatic progression-free survivals (hPFS) of ~9 and 18 months, respectively. We hypothesize that by continuing everolimus during and after bland HAE, medial hPFS will exceed 18 months.

METHODS: A review of clinical and radiographic data was conducted for all sequential patients who underwent evero-embo between September 2016 and November 2018 at the University of Kentucky Markey Cancer Center. An independent radiologist performed response evaluation criteria in solid tumors (RECIST) measurements.

To be included in this study, patients were required to have had systemic everolimus for ≥ one month prior to embolization and to be on everolimus immediately post procedure. Patients with at least 20 months post procedure follow-up were included for median hPFS analysis.

RESULTS: A total of 51 TAEs with concurrent systemic everolimus were performed in 34 NET patients. Mean objective radiographic response was 58.0 +/- 16.5 % (SD). Hepatic progression, per RECIST, has not been observed. Twenty-three of the 34 patients had 24 or more months of follow-up post-procedure. Two patients were censored when peptide receptor radiotherapy began for extra-hepatic progression of disease. A median hPFS exceeding 27 months was observed.

CONCLUSION: Evero-embo results in a median hPFS exceeding that of bland HAE or TACE. With a median follow-up of 27 months, median hPFS and OS (overall survival) have not been reached. Additional follow-up is necessary to establish both the actual median hPFS and OS.

ABSTRACT ID: 159