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Background

TAE of hepatic metastases is effective loco-regional therapy for neuroendocrine tumor (NET) patients. Transarterial chemotherapy (TACE) and transarterial radiotherapy (TARE) are other options in controlling hepatic metastases but deliver cytotoxic agents only at the time of the procedure. Systemic therapies such as everolimus or sunitinib are often held 2-4 weeks prior to and after the procedure. We hypothesize that concurrent oral treatment with everolimus and transarterial hepatic embolization is safe.

Methods

Medical records of all NET patients (pts) treated at the UK Markey Cancer Center from July 2016 to April 2018 with concurrent transarterial embolization and systemic everolimus were reviewed.

Study Population

- Total evaluable patients: 23
- 10 Males; 13 Females
- Mean age of study cohort: 55.2 years (range 31-77 years)

Patient distribution

- Small bowel NETs: 43.5%
- Pancreatic NETs: 26.1%
- NETs of unknown primary: 17.4%

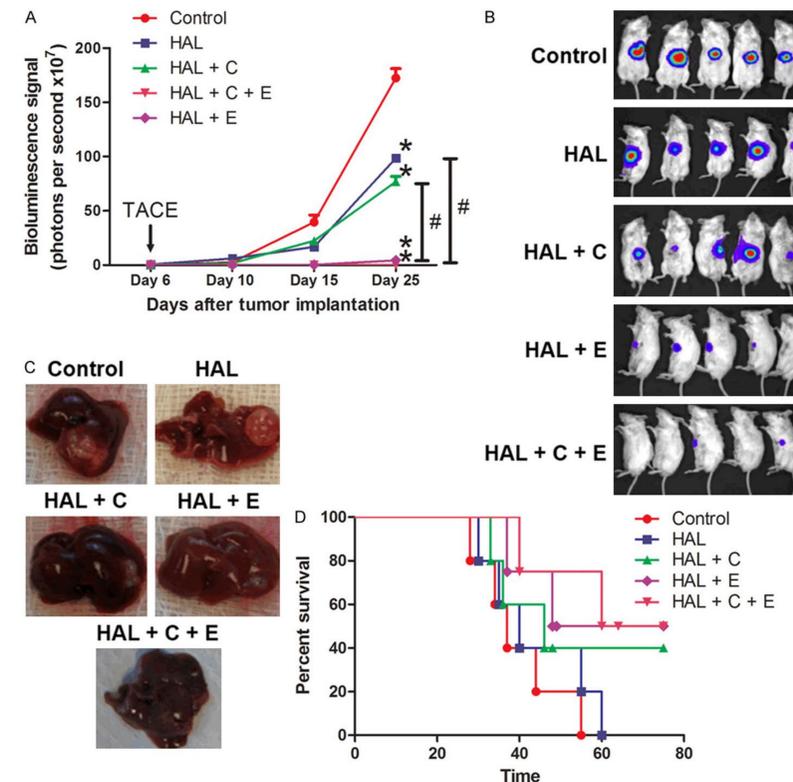
Tumor Grade

- Grade 1 (Ki67 <2%): 39.1%
- Grade 2 NETs (Ki67 2-20%): 43.5%
- Mean duration of treatment with everolimus prior to embolization: 89 ± 52.6 days

Procedures

- 14 patients had TAE on both right and left hepatic lobes
- 9 patients; right hepatic lobe TAE
- Total 37 procedures
- 3 procedures were excluded from analysis due to lack of everolimus exposure

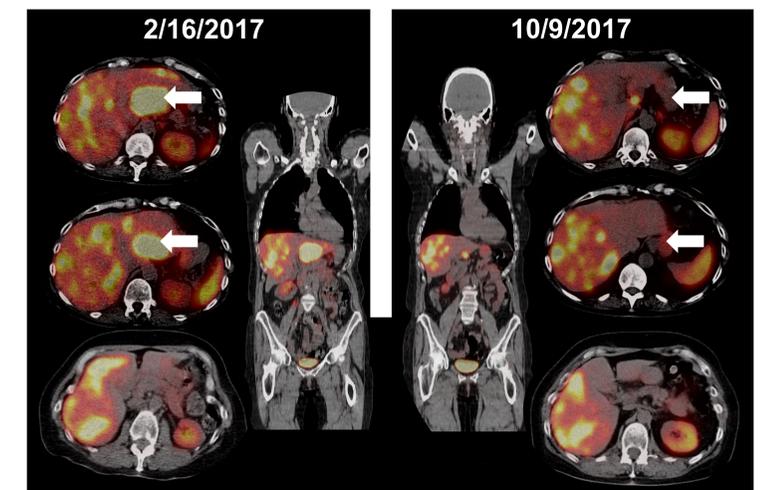
Preclinical Data



Tumor growth of orthotopic mouse model. HAE: Hepatic artery ligation; Control (Sham operation); C: Cisplatin; E: Everolimus. Chow et. Al. Am J Cancer Res 2015

Results

- Mean days of hospitalization: 1.7 days (1-4 days)
- Abdominal Pain 69.7%
- Nausea with emesis 21.1%
- Nausea without emesis 27.3%
- HTN 9.1%
- Asymptomatic 12.1%
- 1 patient had hematemesis immediately post procedure, resolved overnight
- 1 patient had mild carcinoid crises, resolved on day 2 of hospitalization
- No patient developed infectious complications



Conclusions

Combining everolimus with TAE is safe and does not result in longer hospitalization or toxicities greater than that expected from TAE alone.

Data needs to be validated prospectively.

We are currently evaluating anti tumor efficacy of combining systemic everolimus with TAE.