Targeted Alpha-Emitter Therapy with ^{212}Pb-DOTAMTATE in Neuroendocrine Tumor Subjects who Progressed Following Prior ^{177}Lu/^{90}Y-PRRT (Abstract 382731)

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Background

- Targeted Alpha Therapy (TAT) with ^{212}Pb-DOTAMTATE has been shown to be safe and effective in subjects with neuroendocrine tumors (NET) who have not received previous PRRT[1], however, data is lacking for the use of TAT once progression occurs.

Study Design and Methods

- Subjects with biopsy-proven unresectable or metastatic SSTR expressing NETs from different primary sites with at least one measurable lesion who progressed after receiving prior PRRT received up to four 8-week cycles of ^{212}Pb-DOTAMTATE at 67.6 µCi/kg/cycle.
- Response to treatment was measured per RECIST 1.1 and ^{68}Ga/^{64}Cu-DOTATATE PET/CT.
- Safety parameters were also obtained.

Table 1: Subject Demographics

Subject	Age	Sex	Tumor Type	Grade	Previous RTx	Previous* ChemoTx	Total Activity† (mCi)
01	79	M	Sm. Bowel	G1	^{177}Lu	Som/Ever	20.0
02	65	M	Thymus	n/a	^{177}Lu	Som/Carbo/ CapTem/ Lomustine	23.3
03	70	M	Pulmonary	G3	^{177}Lu	Som/Ever	22.6
04	64	F	Pancreatic	G2	^{177}Lu	Som	22.7
05	56	F	Sm. Bowel	G2	^{177}Lu	Som	22.4
06	70	F	Pancreatic	G3	^{177}Lu	Som/CapTem/Ever Sut/5-Fu/Cabo/ FOLFOX	15.4
07	69	M	Sm. Bowel	n/a	^{177}Lu/^{90}Y	Som/Ever	23.1
08	61	M	Sm. Bowel	G2	^{177}Lu	Som/Ever/CapTem	5.8
09	53	M	Sm. Bowel	G1	^{177}Lu	Som	17.3
10	65	M	Pancreatic	n/a	^{177}Lu/^{90}Y	Som/Ever	15.8
11	35	M	Pancreatic	n/a	^{177}Lu	Som	23.2

*Som-somtatostatin analogue; Ever-everolimus; CapTem- Capecitabine/Temolzolomide; Cabo-cabozantinib; Sut-sunitinib; Carbo-carboplatin; 5Fu-5-fluorouracil; FOLFOX: Leucovorin, 5FU, Oxaliplatin

† Total activity of ^{212}Pb-DOTAMTATE administered

Results

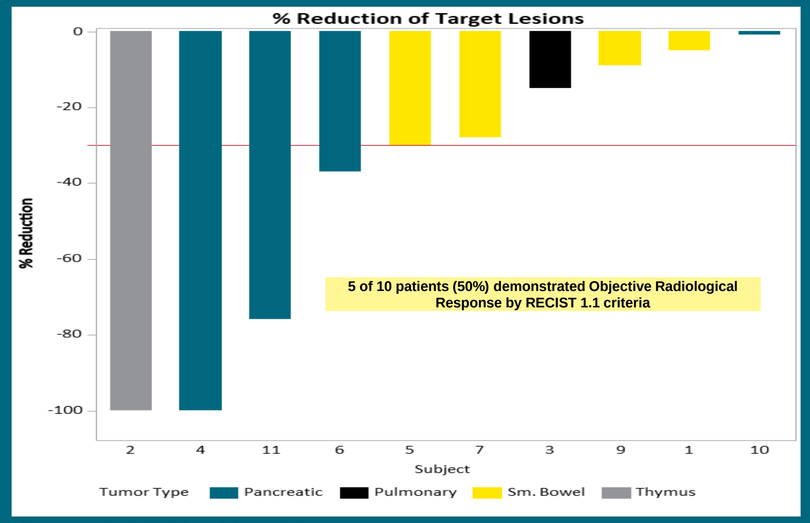


Figure 1: % reduction in the SOM of target lesions.

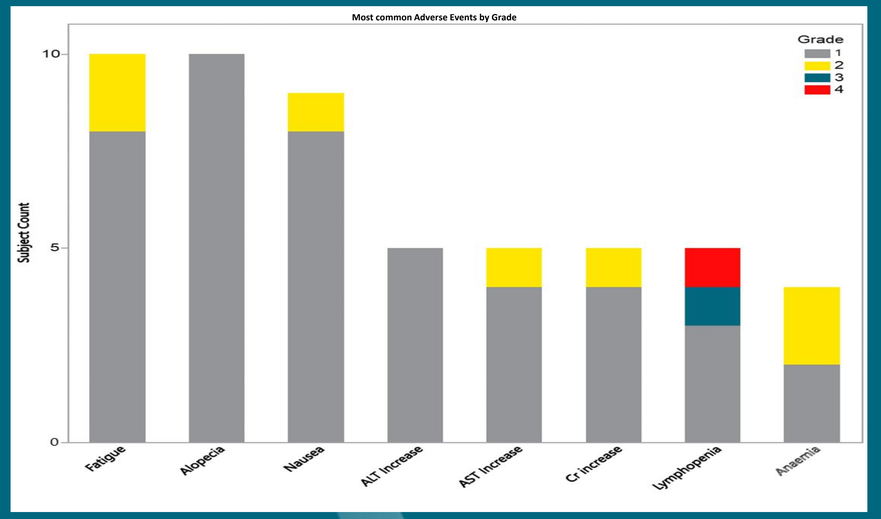


Figure 2: Most common adverse events reported by > 4 subjects

Figure 3: PET/CT Imaging After 4 Cycles of ^{212}Pb-DOTAMTATE (before and after treatment)

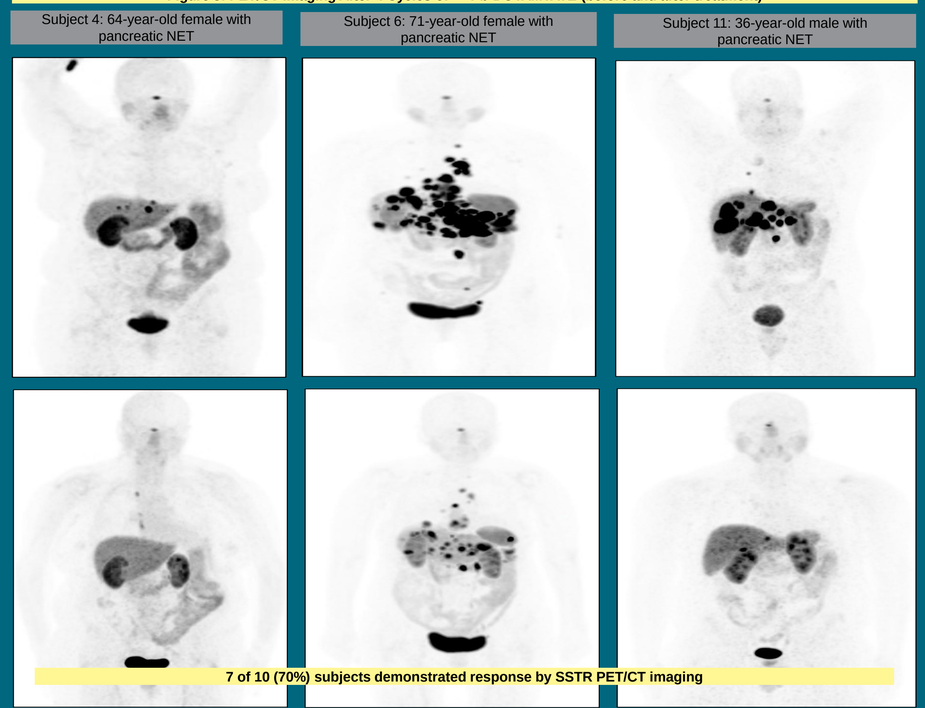
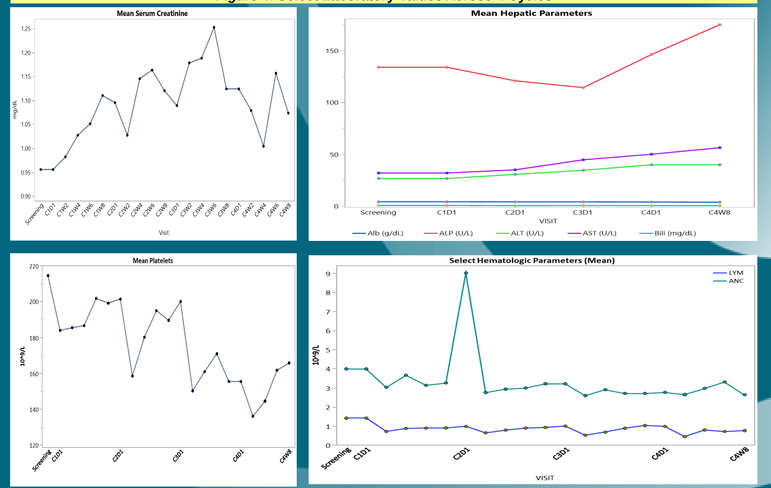


Figure 4: Select Laboratory Values Across 4 Cycles



Conclusions

- This is the first clinical trial of TAT with ^{212}Pb-DOTAMTATE in subjects with NETs who progressed following prior PRRT.
- The use of ^{212}Pb-DOTAMTATE in this setting is highly effective with manageable toxicity and warrants further investigation

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