

Introduction

- Peptide Receptor Radionuclide Therapy (PRRT) and Capecitabine/Temozolomide (CAPTEM) are cornerstones of systemic therapy for metastatic pancreatic neuroendocrine tumors (PNETs).
- In clinical practice, most patients receive more than one regimen during the course of their disease, and the sequence of these treatments vary according to patients and physicians. The optimal sequence of treatments for these patients remains poorly understood.
- We present a real-world comparison of progression free survival (PFS) between PRRT and CAPTEM in PNETs.

Methods

- A retrospective chart review was conducted.
- PNETs seen between 2013 to 2023 at our center were included.
- The primary outcome was PFS in patients who received PRRT or CAPTEM after at least one prior line of systemic therapy for metastatic well-differentiated PNET. The secondary outcomes were objective response rate (ORR) and overall survival (OS) calculated from C1D1 of treatment.
- Study outcomes were analyzed using Kaplan Meier estimations and Cox proportional hazards regression.

Contact

Chih-Yi Liao, MD
Section of Hematology/Oncology
Department of Medicine
University of Chicago
andyliao@uchicagomedicine.org

Rushabh Gujarathi, MBBS
Section of Hematology/Oncology
Department of Medicine
University of Chicago
rushabh.gujarathi@bsd.uchicago.edu

RG: No conflicts of interest to declare

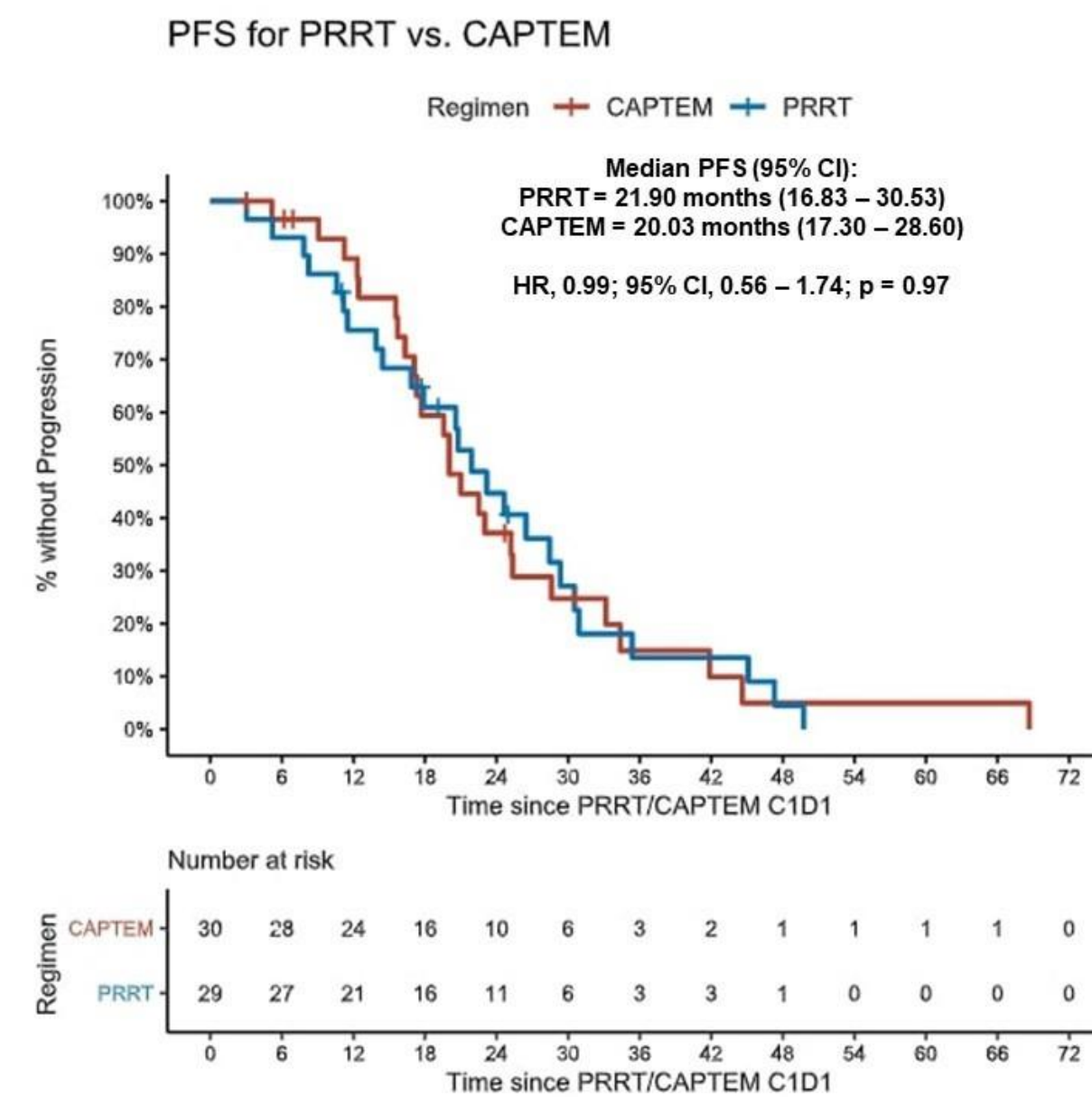


Figure 1. Kaplan-Meier Estimates of Progression Free Survival according to the treatment received

Objective Response Rate and Overall Survival Comparisons

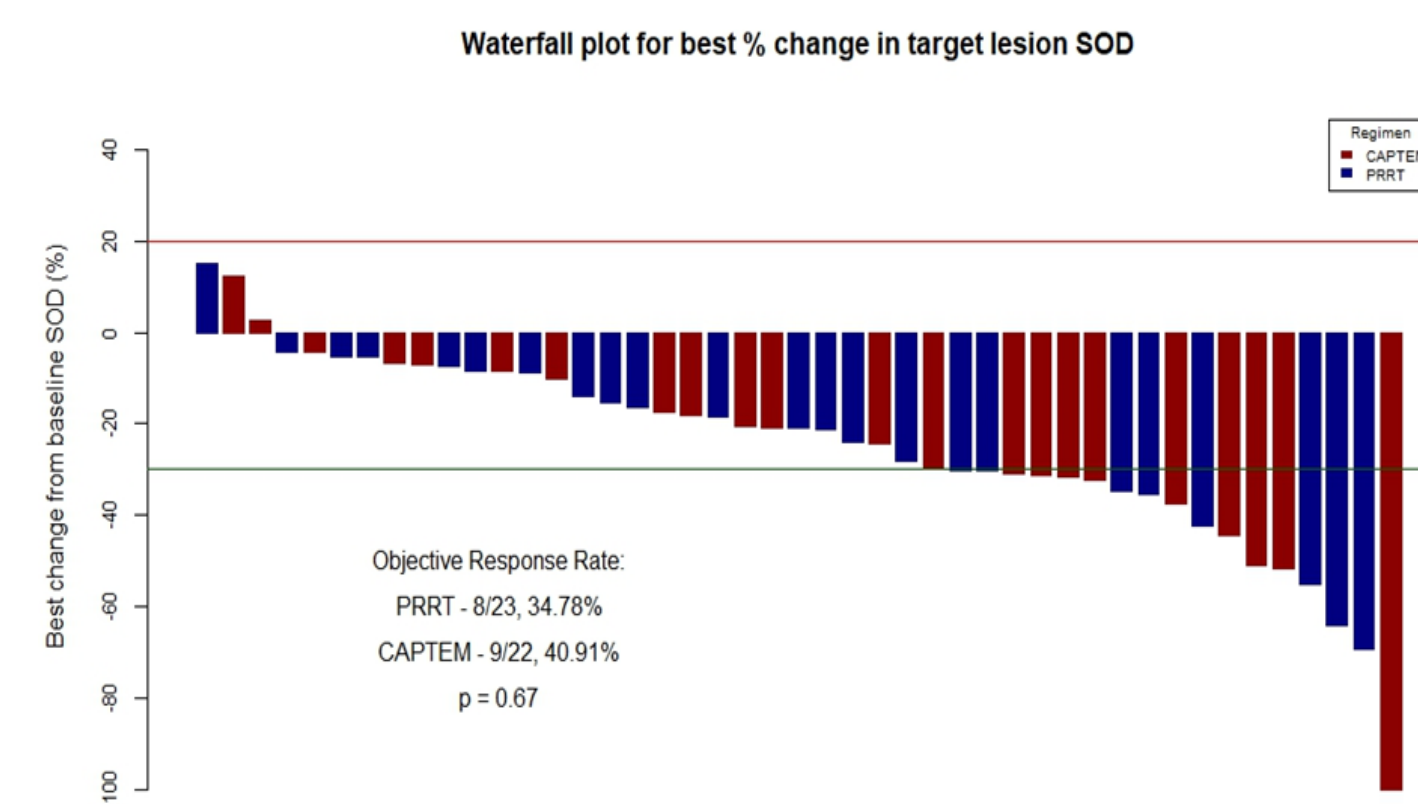


Figure 3. Best objective response as per RECIST v1.1 seen in all evaluable (n = 45) cases, based on maximal percentage of tumor reduction from baseline sums of diameters of target lesions and association with treatment received.

Progression Free Survival Comparisons

N = 59; Median Follow-Up = 31.7 months.

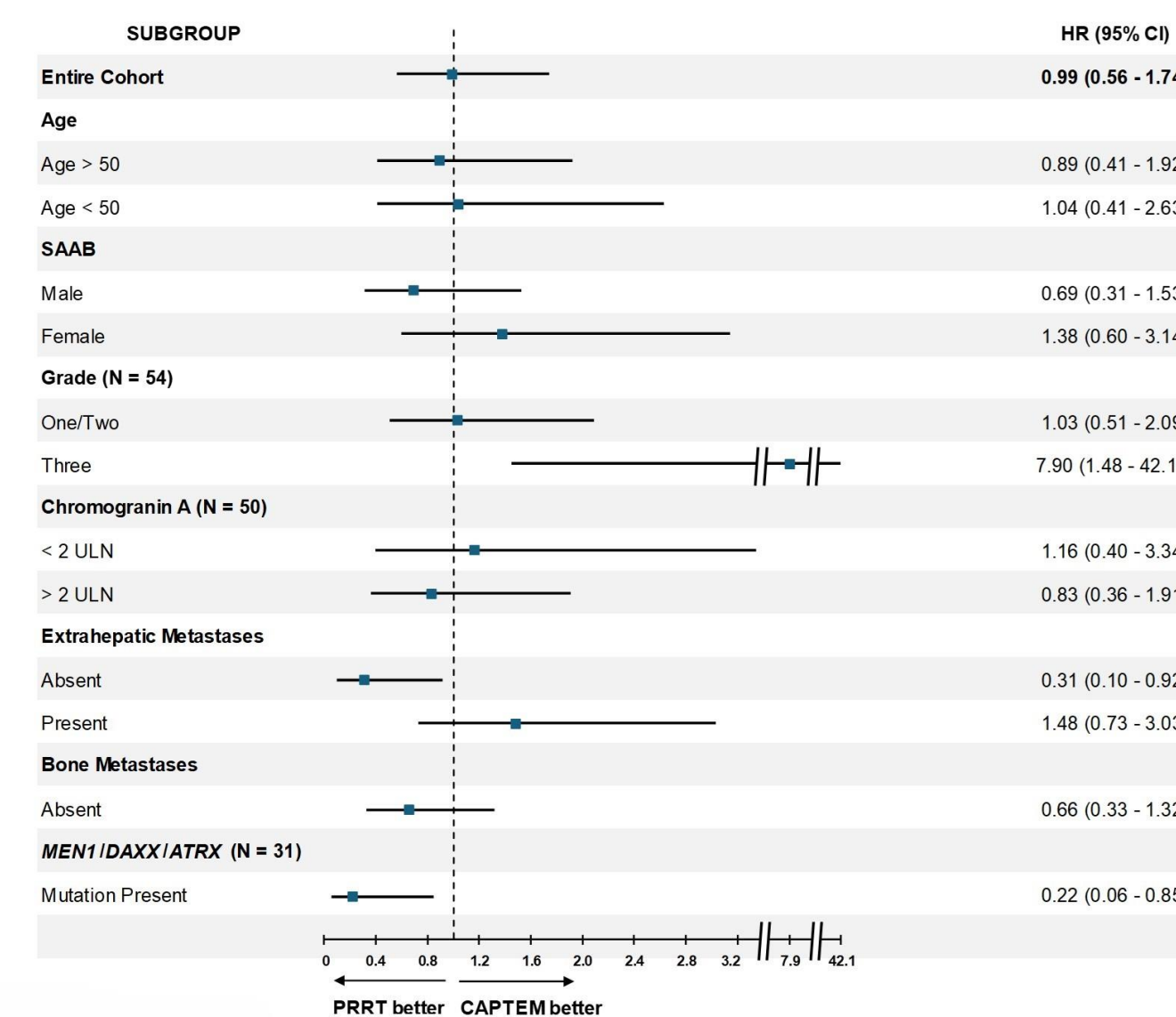


Figure 2. Subgroup analyses for progression free survival across the cohort.

- **No significant difference in ORR (n = 45; p = 0.67).**
- CAPTEM (n = 8) responders showed faster time to response than PRRT (n = 9) responders (**6.03 m vs. 11.15 m; log-rank p = 0.03**).
- In patients who received both (PRRT first = 11; CAPTEM first = 12), **OS did not vary based on the sequence (48.57 m vs. 50.07 m; HR, 1.20; 95% CI, 0.39 - 3.76; p = 0.75).**

- **No significant difference in PFS between the PRRT (n = 29) and CAPTEM (n = 30) groups.**

On subgroup analysis, PFS favored:

- **CAPTEM in patients with grade 3 disease (16.33 m vs. 7.83 m; p = 0.02)**
- **PRRT in patients with *MEN1/DAXX/ATRX* mutations (28.43 m vs. 18.67 m; p = 0.03)**

Conclusions

- This real-world analysis of patients with PNETs treated with PRRT or CAPTEM showed that PFS, ORR, and OS are similar for metastatic PNETs with PRRT or CAPTEM.
- PFS for patients without extrahepatic metastases and those with *MEN1*, *DAXX*, and/or *ATRX* mutations might be prolonged with PRRT.
- Patients with grade 3 disease might fare better with CAPTEM initially.
- Candidates for surgical debulking or those with tumor-induced symptoms may benefit from initial treatment with CAPTEM due to shorter TTR.
- Further investigations of these trends are warranted.
- Limited sample size and retrospective nature of data abstraction limits generalizability of findings.
- Ongoing trials (for e.g. NCT05247905) comparing these two regimens offer an opportunity to investigate the associations reported.

References

1. Li D, Rock A, Kessler J, Ballena R, Hyder S, Mo C, et al. Understanding the Management and Treatment of Well-Differentiated Pancreatic Neuroendocrine Tumors: A Clinician's Guide to a Complex Illness. *JCO Oncol Pract*. November 2020;16(11):720-728.
2. Halfdanarson TR, Strosberg JR, Tang L, Bellizzi AM, Bergsland EK, O'Dorisio TM, et al. The North American Neuroendocrine Tumor Society Consensus Guidelines for Surveillance and Medical Management of Pancreatic Neuroendocrine Tumors. *Pancreas*. August 2020;49(7):863.
3. Riechelmann RP, Taboada RG, de Jesus VHF, Iglesia M, Trikalinos NA. Therapy Sequencing in Patients With Advanced Neuroendocrine Neoplasms. *Am Soc Clin Oncol Educ Book*. June 2023;(43):e389278.