Capecitabine/Temozolomide chemotherapy in metastatic neuroendocrine tumors - response rate and survival by grade

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INTRODUCTION

- Neuroendocrine tumors (NETs) are commonly treated with various modalities, including surgical, liver-directed, radionuclide, or medical therapy such as chemotherapy.
- The role of chemotherapy has recently evolved. The combination of capecitabine and temozolomide (CAPTEM) has been evaluated in multiple trials and has been shown to have notable activity in grade 1 and 2 pancreatic NETs.
- We present a retrospective study of patients treated with CAPTEM for NETs irrespective of tumor location or grade.

METHODS

- Patients with NETs who received at least one cycle of CAPTEM between June 1, 2012 and May 31, 2018 were included for analysis.
- Data collection included demographics, pathologic characteristics, imaging results, and treatment data.
- Based on the World Health Organization's classification of NET, grade (G)1 tumors had well differentiated (WD) histology with a ki-67<3, G2 were WD with a ki-67 3-20, G3 were WD with a ki67>20, and NEC were poorly differentiated tumors with ki67>20.
- Response rate was calculated by RECIST 1.1.
- Overall survival (OS) and progression-free survival (PFS) were calculated by the Kaplan-Meier survival method.

RESULTS

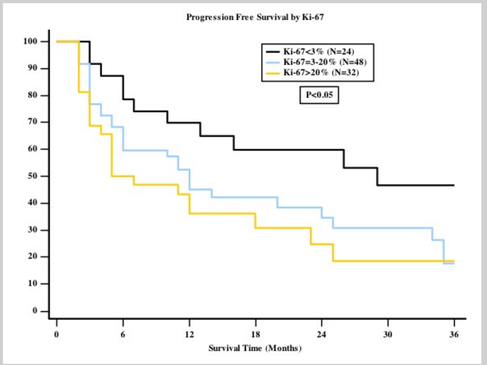
This study included 114 patients. Median number of cycles was 9.5. Clinical benefit defined as CR, PR, or stable disease was seen overall in 73.6% and in multiple primary tumor sites including 76% pancreas, 79% small bowel, UPS 66%, 66% colon, 50% lung, 100% kidney. Forty-nine patients died during this period. Median OS was 33 months (CI: 29-44) and median PFS was 12 months (CI:10-23).

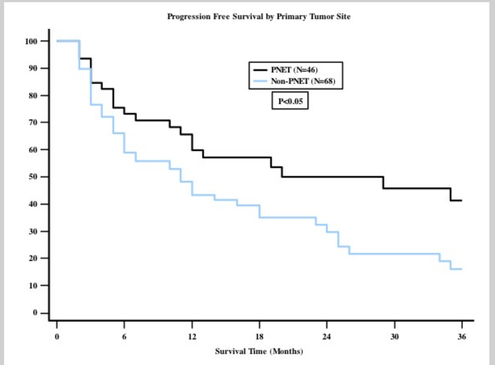
Table 1. CAPTEM Response and Survival by Grade

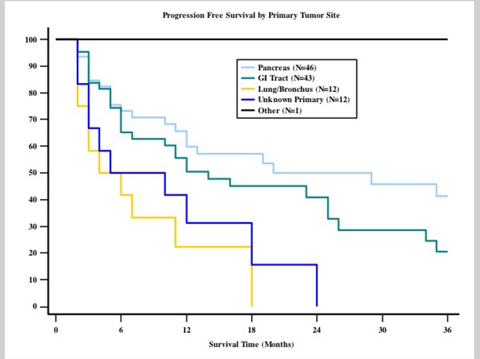
	Low n= 29	Intermediate n= 46	High (NET) n=16	NEC n=18)
Complete Response, n(%)	0 (0)	1 (2)	0 (0)	0 (0)
Partial Response, n(%)	5 (17)	12 (26)	0 (0)	4 (22)
Stable Disease, n (%)	19 (66)	24 (51)	9 (56)	6 (33)
Progressive Disease, n (%)	5 (17)	10 (21)	7 (44)	8 (44)
Median PFS	26 mo	12 mo	5 mo	
Median OS	44 mo	33 mo	25 mo	

OS, Overall survival; PFS, Progression free survival; Mo, months

	n (range)	%
Age at diagnosis Median, years (range)	56 (17-83)	
Primary Tumor	46	40
Pancreas	43	37
GI	12	11
Lung/Bronchial	12	11
Unknown	1	1
Other		







	PNET n=46		Non-PNET n=68	
CAPTEM Response	n	%	n	%
Complete	1	2%	0	0%
Partial	17	37%	6	9%
Stable	17	37%	42	62%
Progression	11	24%	20	29%

CONCLUSIONS

Clinical benefit was seen using CAPTEM across the spectrum of NETs irrespective of primary site or grade, including neuroendocrine carcinoma. CAPTEM should be considered as a reasonable treatment option for metastatic NETs.

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Results

This study included 114 patients. Median age at diagnosis was 56 years (range: 17-83). Primary tumors included pancreas n=46 (40%), small bowel n=37 (32%), unknown primary site (UPS) n=12 (11%), lung n=12 (11%), colon/rectum n=6 (5%), and kidney n=1(1%). Median number of cycles was 9.5. Clinical benefit defined as CR, PR, or stable disease was seen overall in 73.6% and in multiple primary tumor sites including 76% pancreas, 79% small bowel, UPS 66%, 66% colon, 50% lung, 100% kidney. Forty-nine patients died during this period. Median OS was 33 months (CI: 29-44) and median PFS was 12 months (CI:10-23).

Table 1: Demographics

	N	%
Age at diagnosis median, years (range)	56 (17-83)	
Primary Tumor		
Pancreas	46	40
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Lung/Bronchial	12	11
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Other	1	1

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OS, Overall survival; PFS, Progression free survival; Mo, months

Table 3: CAPTEM response pNET vs non-pNET

	PNET n=46		Non-PNET n=68	
CAPTEM Response	n	%	n	%
Complete	1	2	0	0
Partial	17	37	6	9
Stable	17	37	42	62
Progression	11	24	20	29

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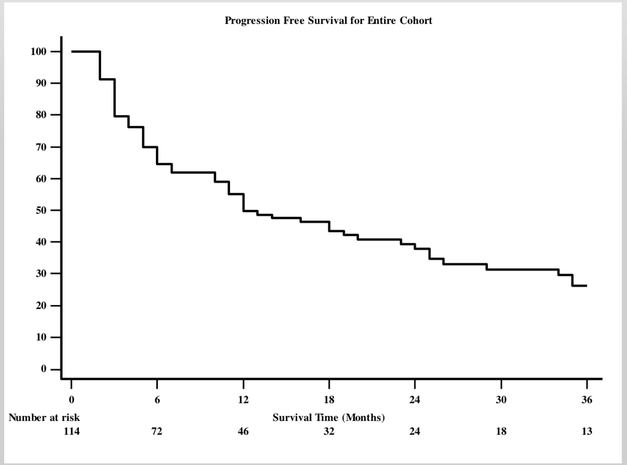

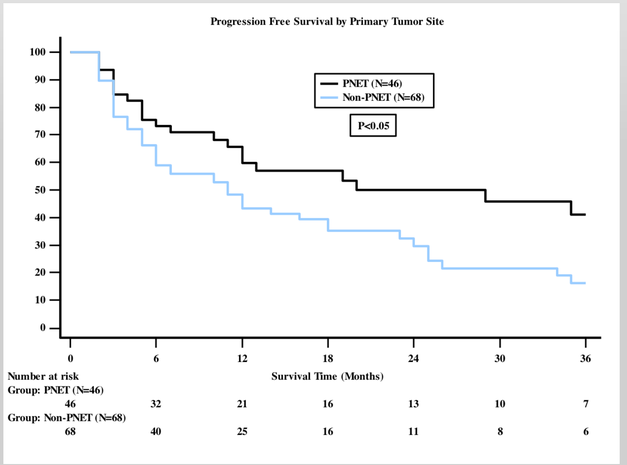

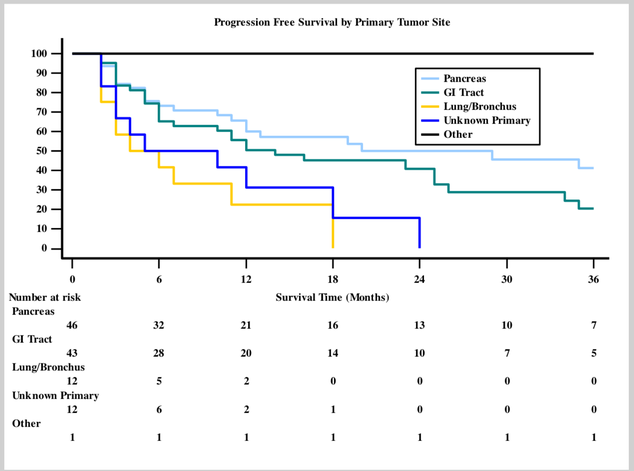

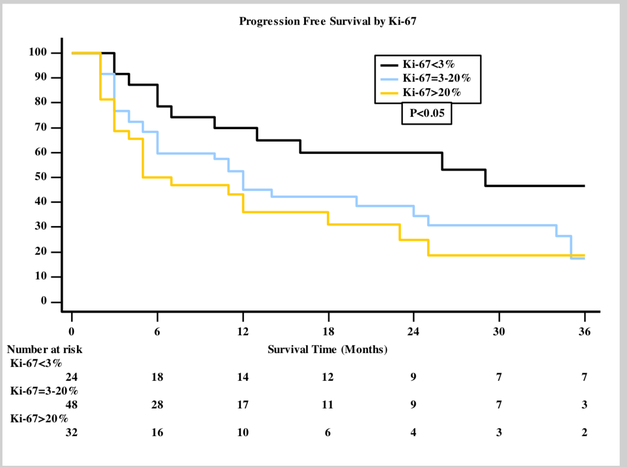

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References

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