

The Role of Capecitabine/Temozolomide (CAPTEM) in Metastatic Neuroendocrine Tumors: A Neuroendocrine Tumor Program Experience

Robert A. Ramirez^{1,4}; Aman Chauhan^{2,4}; David T. Beyer^{3,4};
J. Philip Boudreaux^{3,4}; Yi-Zarn Wang^{3,4}; Eugene A. Woltering^{3,4}

¹Department of Oncology, Ochsner Medical Center, New Orleans, LA

²Department of Medicine, Louisiana State University Health Sciences Center, New Orleans, LA

³Department of Surgery, Louisiana State University Health Sciences Center, New Orleans, LA

⁴Ochsner Kenner, Neuroendocrine Clinic, Kenner, LA

Background: Neuroendocrine tumors (NETs) are commonly treated with multimodality therapy including surgery, somatostatin analogues, targeted agents, chemotherapy and others. The combination of capecitabine and temozolomide has been suggested as a treatment option for patients with metastatic NETs. We present a review of our patient population's experience with CAPTEM treatment.

Methods: This retrospective review included patients diagnosed with NETs at the Louisiana State University/Ochsner NET clinic. Appropriate institutional review board approval was obtained. Patients were identified via a VELOS database. Only NET patients who had been placed on CAPTEM and received at least one cycle were included for review. Response rate (RR) was evaluated by RECIST 1.1, progression-free survival (PFS) was calculated by the Kaplan-Meier survival method.

Results: This review included twenty-nine patients (17 male and 12 female). The median age of CAPTEM initiation was 58 (range: 26-77) years. Primary tumors included 9 small bowel (29%), 15 pancreas (52%), 3 lung (13%) and 2 rectum (7%).

Overall partial response (PR) occurred in 5 patients (5/29, 17%), 14 patients (13/29, 48%) had stable disease (SD), and 10 patients (10/29, 35%) had progressive disease (PD). RR by Ki-67 proliferative index and primary tumor site is shown below. Median number of CAPTEM cycles was 8 (range: 1-55). Sixty-six percent of patients experienced clinical benefit (partial response or stable disease). Median PFS was 12 months. Adverse reactions included fatigue (10/29, 34%), nausea (13/29, 45%), cytopenias (19/29, 66%) and hand foot syndrome (9/29, 31%) resulting in dose reductions in 24% of patients.

Ki-67	N (%)	PR, n (%)	PR + SD, n (%)
< 2%	8 (28%)	1 (13%)	6 (75%)
2% - 20%	16 (55%)	3 (19%)	11 (69%)
> 20%	5 (17%)	1 (20%)	2 (40%)
Response by Tumor Site	N	PR, n (%)	PR + SD, n (%)
Small Bowel	9 (31%)	2 (22%)	7 (78%)
Pancreas	15 (52%)	3 (20%)	8 (53%)
Lung	3 (10%)	0	2 (67%)
Rectum	2 (7%)	0	2 (100%)

Conclusions: Although adverse reactions were experienced, most patients tolerated this regimen. CAPTEM provided clinical benefit to the majority of patients regardless of site of disease or Ki-67. Additional prospective data is eagerly awaited but CAPTEM should be considered a reasonable option for treatment of patients with metastatic NETs.