C19

Real-World Treatment Patterns in Advanced Pancreatic Neuroendocrine Tumors in the Era of Targeted Therapy: Perspectives from an Academic Tertiary Center and Community Oncology Practices

Maurice Herring[1]; Lynn Huynh, MPH, MBA, DrPH[2]; Mei Sheng Duh, MPH, ScD[2]; Francis Vekeman, MA[3]; Audrey Tiew[2]; Maureen P. Neary, PhD, MS[4]; Emily Bergsland, MD[1]

[1]UCSF Helen Diller Family Comprehensive Cancer Center; San Francisco, CA; USA
[2]Analysis Group, Inc., Boston, MA, USA
[3]Groupe d'Analyse, Ltée, Montreal, QC, Canada
[4]Novartis Pharmaceuticals Corporation; East Hanover, NJ, USA

BACKGROUND: Pancreatic neuroendocrine tumors (PanNETs) are rare, slow-growing cancers. Optimal treatment of advanced PanNETs is unclear. For unresectable disease, somatostatin analogs (SSAs), targeted agents (everolimus, sunitinib), chemotherapy, and liver-directed therapy are routinely administered. We aim to evaluate treatment patterns in the era of targeted therapy among patients with newly-diagnosed advanced PanNETs in both academic and community practice settings.

METHODS: Retrospective chart review identified patients at an academic cancer center (University of California, San Francisco [UCSF]) and a large network of community oncology practices with locations throughout 36 states in the US (Altos Solutions' OncoEMR database; ALTOS). Eligible patients were ≥18 years and newly-diagnosed with advanced (i.e. locally advanced or metastatic) and well- to moderately-differentiated PanNET between 2010-2013. Patients were actively followed for ≥6 months after advanced PanNET diagnosis date, with ≥2 visits in 12 months.

RESULTS: Fifty-four eligible patients ($N_{UCSF}=23$; $N_{ALTOS}=31$) were identified out of 159 charts screened. Overall mean age at advanced PanNETs diagnosis was 60.6 years (ALTOS patients were non-significantly older than UCSF, p=0.11); 61.1% were male; median time to treatment initiation was 1.1 months; median follow-up time was 22.9 months. UCSF patients underwent more lines of therapy than ALTOS patients despite similar median follow-up times. Table 1 summarizes clinical and treatment characteristics by practice setting. The most common first-line treatments were SSA, everolimus, or chemotherapy at ALTOS and surgery, SSA, or chemotherapy at UCSF. The median time to treatment discontinuation for first/second-line was statistically significantly shorter for patients on chemotherapy than targeted therapy at both UCSF and ALTOS (chemotherapy=2.2 months vs. targeted=18.6 months, p<0.01).

CONCLUSION: Treatment patterns and durations for newly-diagnosed advanced PanNETs vary widely both within and between different practice settings. Limitations related to study methodology (e.g., incomplete information in the EMRs) preclude making definitive conclusions. Prospective studies are needed to more completely examine factors affecting choice of therapy.

Table 1. Clinical and treatment characteristics of patients with advanced PanNETs at ALTOS and UCSF

	Clinical practice settings		
Clinical and treatment characteristics	***Overall (ALTOS +UCSF)***	***ALTOS***	***UCSF***
Advanced PanNET patients who met eligibility criteria, N	54	31	23
Mean (SD) age at PanNET diagnosis (years)	60.6 (15.8)	63.5 (16.2)	56.6 (14.6)
Median time to treatment initiation (months)	1.1	1.2	1.1
Median follow-up time	22.9	22.4	24.1

	Clinical practice settings		
Clinical and treatment characteristics	***Overall (ALTOS +UCSF)***	***ALTOS***	***UCSF***
(months)			
Male (%)	61.1%	61.3%	60.9%
Mortality, N (%)	11 (20.4%)	8 (25.8%)	3 (13.0%)
Type of PanNET			
Functional	5 (9.3%)	1 (3.2 %)	4 (17.4%)
Non-functional	23 (42.6%)	4 (12.9%)	19 (82.6%)
Unknown	26 (48.1%)	26 (83.9%)	0 (0.0%)
Patients undergoing lines of therapy, N (%)			
≥ 1	45 (83.3%)	24 (77.4%)	21 (91.3%)
≥ 2	21 (38.9%)	7 (22.6%)	14 (60.9%)
≥ 3	12 (22.2%)	4 (12.9%)	8 (34.8%)
Any treatments (all lines of therapy), N (%)[1]	45 (83.3%)	24 (77.4%)	21 (91.3%)
SSA	26 (48.1%)	14 (45.2%)	12 (52.2%)
Surgery	13 (24.1%)	2 (6.5%)	11 (47.8%)
Chemotherapy	12 (22.2%)	6 (19.4%)	6 (26.1%)
Everolimus	12 (22.2%)	7 (22.6%)	5 (21.7%)
Liver-directed therapy	6 (11.1%)	1 (3.2%)	5 (21.7%)
SSA + Everolimus	2 (3.7%)	1 (3.2%)	1 (4.3%)

	Clinical practice settings		
Clinical and treatment characteristics	***Overall (ALTOS +UCSF)***	***ALTOS***	***UCSF***
Sunitinib	2 (3.7%)	2 (6.5%)	0 (0.0%)
First-line treatments, N (%)[2]			
SSA	16 (35.6%)	11 (45.8%)	5 (23.8%)
Surgery	10 (22.2%)	2 (8.3%)	8 (38.1%)
Chemotherapy	8 (17.8%)	5 (20.8%)	3 (14.3%)
Everolimus	4 (8.9%)	3 (12.5%)	1 (4.8%)
Liver-directed therapy	2 (4.4%)	1 (4.2%)	1 (4.8%)
SSA + Everolimus	2 (4.4%)	1 (4.2%)	1 (4.8%)
SSA + Surgery	1 (2.2%)	0 (0.0%)	1 (4.8%)
Sunitinib	1 (2.2%)	1 (4.2%)	0 (0.0%)
Surgery + Liver-directed therapy	1 (2.2%)	0 (0.0%)	1 (4.8%)

[1] Treatments are not mutually exclusive.

[2] Percentages are out of the number of patients who underwent at least one treatment.