

Patterns and Sequencing of Systemic Therapies in Patients with Advanced Neuroendocrine Tumors (NET)

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Background: Systemic treatments for patients with advanced NET are evolving, and current treatment patterns are not well described.

Methods: We evaluated treatment patterns in 593 patients with advanced NET treated at our institution between 2003 and 2013, including 215 small intestinal NET (SINET), 162 pancreatic NET (PanNET) and 216 other NET. Time on treatment was defined as date of treatment initiation to last known follow up, treatment completion, or death, whichever came first, and was estimated using Kaplan-Meier analysis.

Results: The median number of lines received (in patients followed for their entire disease course) was 2 (1-6) for SINET, 3 (1-8) for PanNET and 2 (1-7) for other NET. Somatostatin analogs (SSA) were used first-line in 92% of SINET, 46% of PanNET and 49% of other NET. Median time on SSA after initiation in the first line setting was 95 mos for SINET, 62 mos for PanNET and 68 mos for other NET. Cytotoxic chemotherapy comprised first-line treatment in 5% of SINET, 41% of PanNET,

and 45% of other NET. mTOR inhibitors (mTORi) or tyrosine kinase inhibitors (TKI) were used for first line treatment in 1% of SINET, 9% of PanNET, and 4% of other NET. An increase in the use of mTORi/TKI's was observed after 2011, particularly in the second and third line. In the second line, mTORi/TKI use increased from 20% to 36% for SINET, 15 to 62% for PanNET, and 9 to 30% for other NET. In third line, mTORi/TKI use increased from 7% to 29% in SINET, 22 to 52% in PanNET and 15 to 43% in other NET.

Conclusions: Multiple lines of therapy are common in patients with advanced NET. Treatment patterns differ markedly depending on tumor subtype.

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