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Impact of Progression on Resource Utilization in the Treatment of Advanced Neuroendocrine Tumor

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Background: Advanced neuroendocrine tumors (aNET) are associated with high morbidity and mortality; however, literature on resource utilization upon disease progression is scarce. This study aims to compare resource use in aNET patients at diagnosis versus post-progression.

Methods: An online survey was administered to physicians across the US, UK, Germany, France, Brazil and Italy. The survey collected resource utilization during the baseline (time post-diagnosis but pre-progression), 1st, and 2nd progression periods. Progression was defined as measurable/radiographic evidence of tumor progression.

Results: 197 physicians participated, providing data on 394 patients. Average durations in baseline, 1st and 2nd progression were 12.8, 8.7 and 12 months, respectively. aNET subtypes included Gastrointestinal (GI) (45%), lung (24%), and pancreas (31%). Resource utilization consistently increased from baseline through progression (Table 1).

Table 1. Resource Utilization: Baseline versus Any Progression

	Baseline			Any Progression*		
	All NET %(N=377)	GI/Lung %(N=264)	Pancreas %(N=113)	All NET %(N=640)	GI/Lung %(N=442)	Pancreas %(N=198)
Chemotherapy	21.8(82)	23.9(63)	16.8(19)	29.2(187)	30.3(134)	26.8(53)
PRRT	1.9(7)	1.9(5)	1.8(2)	6.1(39)	6.3(28)	5.6(11)
Somatostatin Analogs	61.0(230)	61.7(163)	59.3(67)	48.0(307)	48.4(214)	47.0(93)
Ultrasound	52.5(198)	50.0(132)	58.4(66)	40.2(257)	39.1(173)	42.4(84)
CT Scans	84.9(320)	86.4(228)	81.4(92)	81.6(522)	82.8(366)	78.8(156)
Biomarkers	69.0(260)	68.2(180)	70.8(80)	55.2(353)	54.1(239)	57.6(114)
Lab Tests	56.2(212)	52.6(139)	64.6(73)	46.9(300)	43.4(192)	54.6(108)
Physician Visits	97.1(366)	96.6(255)	98.2(111)	96.3(616)	95.7(423)	97.5(193)
Hospitalizations	37.1(140)	36.0(95)	39.8(45)	43.9(281)	43.0(190)	46.0(91)
Surgery	28.7(108)	26.5(70)	33.6(38)	23.9(153)	23.1(102)	25.8(51)
Targeted Therapies†	1.3(5)	1.1(3)	1.8(2)	3.9(25)	2.9(13)	6.1(12)

*Includes first progression and assumed second progression for all patients; potential for multiple events per patient

†Includes everolimus, sunitinib, imatinib, and bevacizumab

Conclusions: It is important to characterize the burden posed by disease progression in a NET. Findings suggest that progression results in increased use of chemotherapy, PRRT, targeted therapies, and hospitalization rates.