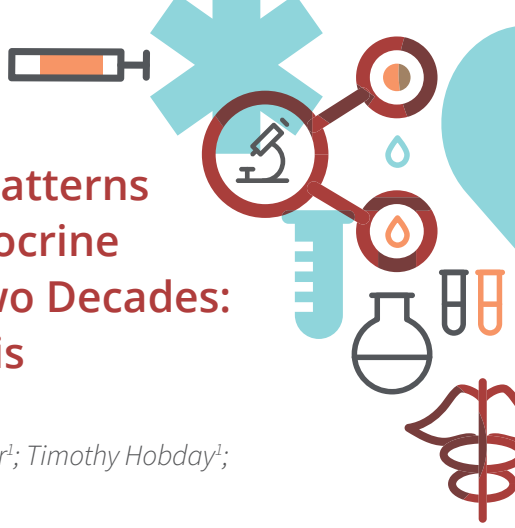

P-2

Incidence and Survival Patterns of Pancreatic Neuroendocrine Tumors over the Last Two Decades: A SEER Database Analysis

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BACKGROUND: Pancreatic neuroendocrine tumors (pNETs) are rare neoplasms with outcome varying by stage, grade, and clinical presentation. We present an analysis of the epidemiology and prognosis of patients (pts) with PNETs over the last two decades using a large population-based database.

METHODS: Using 2000-2016 data from the SEER 18 registry, we identified pts with PNETs using a combination of ICD-O-3 and histology codes. Age-adjusted incidence rates were calculated using SEER*Stat 8.3.5. Using SAS 9.4, overall survival (OS) was analyzed using the Kaplan–Meier method, and prognostic factors were investigated using a multivariate Cox proportional hazards model.

RESULTS: We identified 8,944 pts with PNETs. Annual incidence rates increased over study period from 0.27 to 1.00 per 100,000. This was largely explained by a significant increase in number of pts diagnosed with localized disease in recent years (2012-2016). Median OS (mOS) for the entire cohort was 68 months (95% CI 64-73) and 5-year OS rates in localized, regional, and metastatic disease were 83%, 67%, and 28%, respectively. There was a significant improvement in OS for pts diagnosed between 2009-2016 (mOS 85 months) compared to those diagnosed between 2000-2008 (mOS 46 months) (HR 0.66; p <0.001). In addition, pts with grade I/II metastatic disease who underwent surgery experienced significantly longer OS (mOS 84 months) compared to those who did not undergo surgery (mOS 18 months) (HR 0.31;p<0.001). In the multivariate analysis, more recent diagnosis, younger age, female sex, surgery, early stage, and lower

grade favorably predicted OS (Table 1). On the other hand, functional status and race did not predict OS.

CONCLUSION: There has been a steady increase in the incidence of PNETs with notable stage migration as most patients are diagnosed in early stages of disease in recent years. Additionally, this increase in incidence is accompanied by a significant improvement in survival across different disease stages.

Table 1.

Prognostic Factor	Reference Group	p-Value	Hazard Ratio
Year of Diagnosis (1-Year Increments)		<.001	0.970
Age at Diagnosis (5-Year Increments)		<.001	1.145
SEER Stage – Regional	Localized	<.001	1.617
SEER Stage – Distant	Localized	<.001	2.779
Grade – Grade II	Grade I	.007	1.210
Grade – Grade III or IV	Grade I	<.001	3.470
Sex – Female	Male	.001	0.843
Race – Black	White	.159	1.122
Race – Other	White	.312	0.903
Functional Status – Functional	Nonfunctional	.847	0.959
Surgery	No Surgery	<.001	0.352