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# Factors Associated with Stage at Presentation Among Patients with Rare Pancreatic Tumors: An Exploratory Analysis of the SEER Database

J. Subramoney

Thomas Jefferson University, jay.subramoney@jefferson.edu

D. Delgado

Thomas Jefferson University

V. Nguyen

Thomas Jefferson University

R. Denneny

Thomas Jefferson University, rachel.denneny@jefferson.edu

B. George

Thomas Jefferson University

See next page for additional authors

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Authors J. Subramoney; D. Delgado; V. Nguyen; R. Denneny; B. George; and E. Mitchell, MD	

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**Authors:** J. Subramoney, D. Delgado, V. Nguyen, R. Denneny, B. George, E. Mitchell MD Thomas Jefferson University, Philadelphia, PA, USA

#### Introduction

Rare pancreatic carcinomas (PC) account for roughly 15% of all pancreatic cancers and approximately 8,300 new cases within the US annually. Little research compares initial stage at diagnosis among rare vs. common pancreatic tumors. The aim of this study was to examine associations between tumor histology and initial stage at diagnosis among cases of rare pancreatic cancers.

#### Methods

Retrospective cohort study, using the NCI's Surveillance, Epidemiology, and End Results (SEER) 1990-2015 database. We included patients diagnosed with pancreatic cancer aged 18+. Histology was classified into four categories (ductal, carcinoid, mucinous adenocarcinoma, and undetermined) and stage was dichotomized (locoregional versus distant). Multivariate logistic regression was used to describe the association between tumor histology with initial stage at diagnosis, controlling for patient and tumor characteristics.

#### Results

90,764 PC patients were analyzed: 9.60%(ductal carcinomas), 4.47%(carcinoid), 3.78%(mucinous), and 15.81%(undetermined); 54.74% of cases were distantly metastasized at diagnosis. In multivariate analysis, PC patients with mucinous histology had greater odds of presenting with late-stage disease compared to those with adenocarcinoma (OR=141%,CI=131,152%; carcinoid and undetermined neoplasm findings were not significant (OR=99.1%CI=92.3,106.5% and OR=101.3%CI=97.3%,105.4% respectively). Other factors associated with distant PC included age 40-59, male sex, and African American background.

### **Discussion**

We observed that mucinous histology has a greater risk of late-stage diagnosis while carcinoid and undetermined neoplasms had a similar risk of late-stage diagnosis vs. adenocarcinoma.