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Anatomic location and mortality of pancreatic adenocarcinoma: A single institution study

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Disclosures

I have no financial disclosures or conflicts of interest.



Introduction & Objectives

- Proximal and distal pancreatic tumors have different anatomic location (head/tail of pancreas) and molecular biology.
- Patients with distal tumors (body/tail) have been associated with delayed diagnosis and poorer survival given the anatomic location.
- Understanding the anatomic and genetic differences in survival can add further knowledge on prognostic outcomes and therapeutic management for future patients.

Research Question & Hypothesis

- **Research Question**

- In adult patients with pancreatic cancer, how does the tumor location at the proximal pancreas compared to the distal pancreas affect survival when diagnosed at the same stage?

- **Hypothesis**

- In adult patients with pancreatic cancer, anatomic tumor location would contribute to poorer survival in distal tumors compared to head tumors when diagnosed at the same stage.



Methods

- Retrospective medical chart review on Epic patient database at Thomas Jefferson University Hospital
- 907 patient screened, 324 reviewed patients with pancreatic adenocarcinoma (236 head and 88 body/tail) diagnosed from 2011-2017
- Inclusion criteria: 18 years or older, biopsy proven adenocarcinoma and a single mass in the pancreas at presentation.

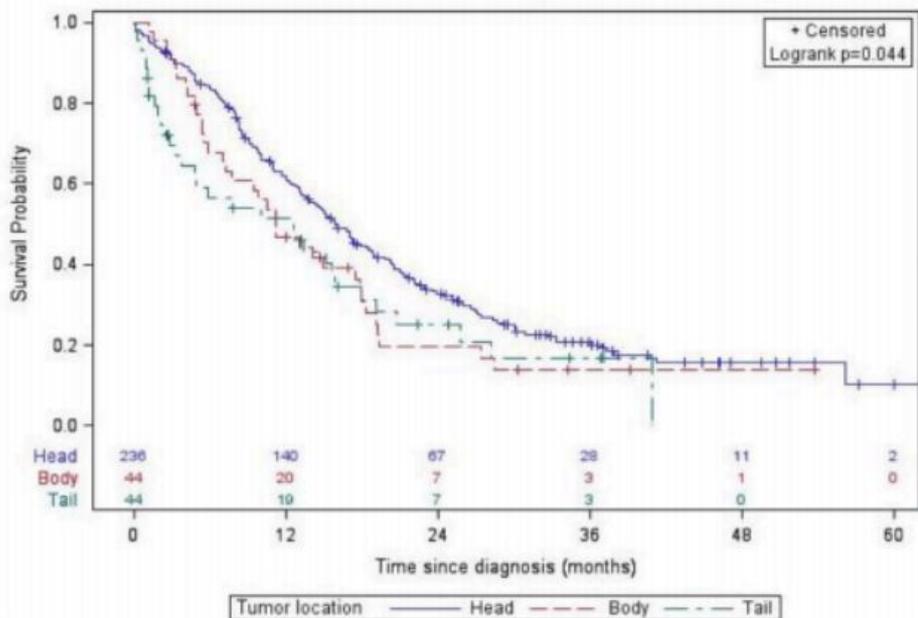
Data Analysis

- Data mining and entry was performed using REDcap software.
- CDC National Death Index Registry and obituary reports were utilized to determine official dates of death.
- Comparison of median survival from onset of diagnosis in cancer staging and tumor location
- Comparative statistics when corrected for stage and surgery (hazard ratio, confidence intervals, p-values, etc.)

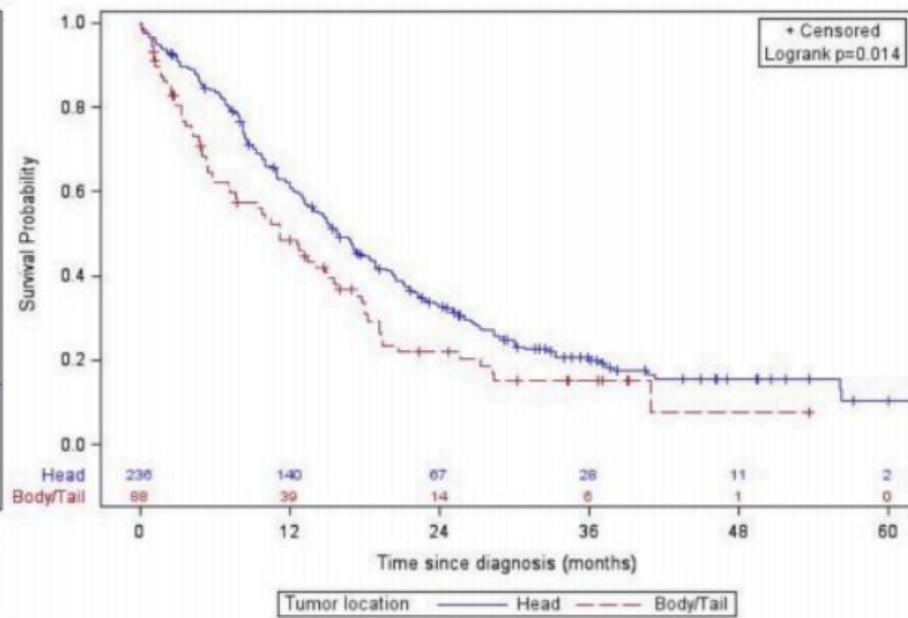


Results

Median Survival in Head, Body, and Tail Groups



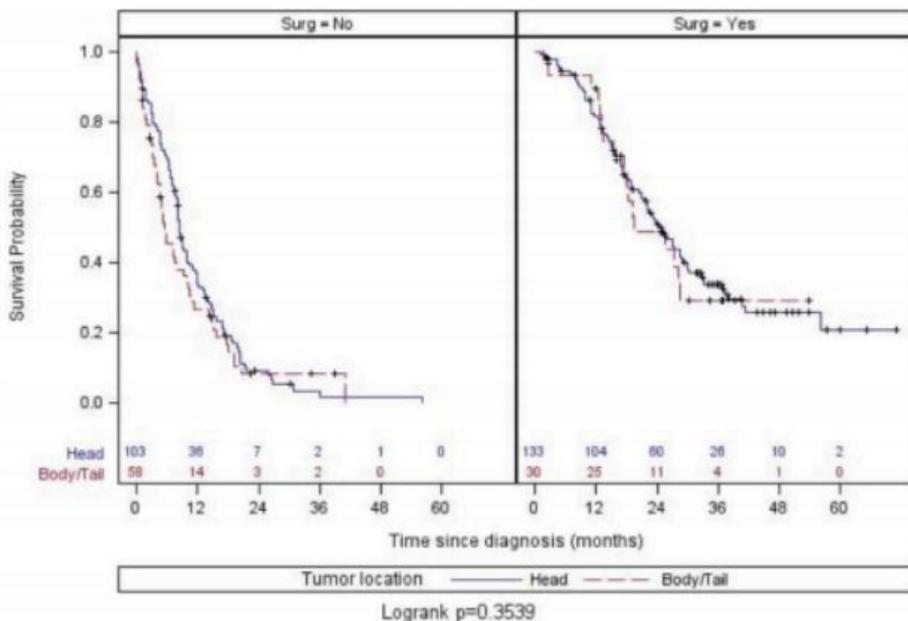
Median Survival in Proximal Versus Distal Groups



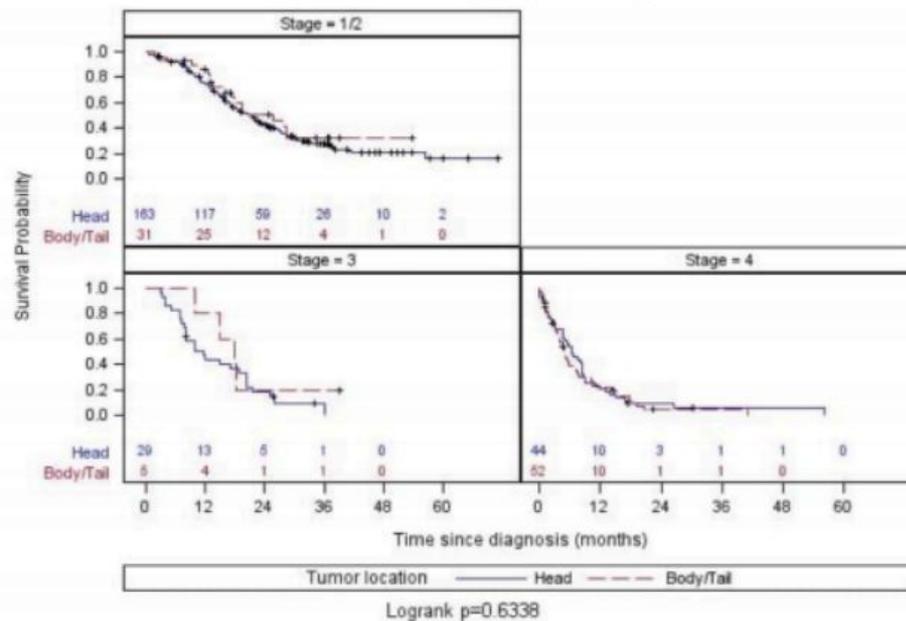


Results

Median Survival in Proximal Versus Distal Groups
Stratified by Surgical Resection



Median Survival in Proximal Versus Distal Groups
Stratified by Stage at Diagnosis



Results

- The overall body/tail cancer survival was significantly less than pancreatic head cancer (11.2 months body/tail compared to 16 months head, $p=0.015$).
- When broken down by stage at diagnosis, the survival for body/tail cases was not statistically significant to pancreatic head cases (Stage I/II, head=21 months, body/tail=25.7 months, $p=0.436$; Stage III, head=11.7 months, body/tail=18.0 months, $p=0.393$; Stage IV, head=6.5 months, body/tail=4.9 months, $p=0.675$).
- When broken down by surgery, the survival for body/tail cases was not statistically significant in comparison to pancreatic head cases (surgery, head=24.6 months, body/tail=19.4 months, $p=0.795$; no surgery, head=8.5 months, body/tail=5.5 months, $p=0.349$).
- After adjusting for both stage and surgery, the hazard ratio of body/tail reduced from 1.42 to 0.96.

Conclusions

- When stratified by stage there was no statistically significant difference in median survival between the proximal or distal groups.
- When stratified by surgical resection there was also no statistically significant difference in median survival between the proximal or distal groups.
- In the early-stage distal pancreatic adenocarcinoma group there was a trend towards improved survival of distal over the proximal group, though this was not statistically significant. However, low overall numbers of distal pancreatic cancer cases may have contributed to the non-statistically significant value.

Future Directions

- Given the trend towards higher median survival in the early-stage distal group, we plan to acquire data from 2017 to present to increase the number of distal tumors in the study population.
- We plan to perform a retrospective review Next-Generation Sequencing on tumor tissues to assess for differences in molecular characteristics between proximal versus distal tumors.

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