

26 - Title: Pediatric Rectal Adenocarcinoma: A National Cancer Database Analysis and Comparison to Adults

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Background:

Rectal adenocarcinoma is exceptionally rare in children and is now recognized as a distinct entity from colon cancer, thereby requiring different treatment approaches. Differences between the pediatric and adult populations have not been previously explored. This study aims to characterize tumor biology, disease presentation, treatment and survival outcomes in pediatric rectal cancer to help improve care in the pediatric population.

Methods/Research Design.

Retrospective analysis was conducted using the National Cancer Database (NCDB) for patients 0-90 years old diagnosed with rectal adenocarcinoma between 2004-2019. Patients were stratified into three age cohorts: Pediatrics (PEDS) (≤ 21 years old), Young Adults (YA) (22-50 years old), and Older Adults (OA) (>50 years old). We analyzed demographics, clinical staging, treatment modalities, and overall survival (OS) using Chi-Squared, ANOVA, Kaplan-Meier analysis, and Cox Regression.

Results (or Preliminary Results, as applicable for a project in progress):

181,528 patients (129 PEDS, 34,620 YA, and 146,779 OA) were included. PEDS and YA had a greater proportion of females and Black patients. While YA and OA more commonly presented with moderately differentiated tumors, a greater proportion of PEDS presented with poorly-differentiated or undifferentiated tumors. PEDS more commonly presented with Stage III or IV disease. While PEDS had equivocal OS compared to OA in all stages of disease and YA in Stage IV disease, PEDS had worse OS compared to YA in Stage I (HR: 3.32, CI: 1.49-7.42, $p=0.003$), Stage II (HR: 3.01, CI: 1.62-5.60, $p<0.001$), and Stage III (HR: 2.03, CI: 1.96-2.11, $p<0.001$) disease.

Conclusion (or Preliminary Conclusion, as applicable for a project in progress):

PEDS with rectal adenocarcinoma present with more aggressive, advanced disease stage and have inferior survival compared to younger adults. These findings highlight the distinct biological behavior of rectal adenocarcinoma in PEDS, emphasizing the need for further research in this population.