

Occupation and risk of esophageal and gastric cardia adenocarcinoma

Engel LS,¹ Vaughan TL,² Gammon MD,³ Chow WH,¹ Risch HA,⁴ Dubrow R,⁴ Mayne ST,⁴ Rotterdam H,⁵ Schoenberg JB,⁶ Stanford JL,² West AB,⁷ Blot WJ,⁸ Fraumeni, Jr. JF,¹

¹ Division of Cancer Epidemiology and Genetics, National Cancer Institute, Bethesda, MD

² Division of Public Health Sciences, Fred Hutchinson Cancer Research Center, and Department of Epidemiology, University of Washington, Seattle, WA

³ School of Public Health, University of North Carolina, Chapel Hill, NC

⁴ Departments of Epidemiology and Public Health, School of Medicine, Yale University, New Haven, CT

⁵ Department of Pathology, College of Physicians and Surgeons of Columbia University, New York, NY

⁶ Cancer Epidemiology Services, New Jersey Department of Health and Senior Services, Trenton, NJ

⁷ Department of Pathology, Yale University, New Haven, CT

⁸ International Epidemiology Institute, Rockville, MD

Adenocarcinomas of the esophagus and gastric cardia have risen dramatically in incidence over the past few decades. However, very little research has been conducted into occupational risk factors for these cancers. In this population-based case-control study, lifetime job histories were compared between cases of esophageal adenocarcinoma (n=283), gastric cardia adenocarcinoma (n=259), and population controls (n=689). Odds ratios (OR) and 95% confidence intervals (CI) for ever employment and by duration in various occupational and industrial categories were calculated using unconditional logistic regression. We observed an elevated risk of esophageal adenocarcinoma among persons ever employed in administrative support (OR=1.5; 95% CI=1.0-2.1); financial, insurance, and real estate (OR=1.6; 95% CI=1.0-2.4); and health services (OR=2.2; 95% CI=1.2-3.9). The risk of gastric cardia adenocarcinoma was increased among transportation workers (OR=1.7; 95% CI=1.1-2.6), as well as among carpenters (OR=1.8; 95% CI=0.9-3.9) and workers in the furniture manufacturing industry (OR=2.4; 95% CI=0.9-6.3). However, we observed few duration-response relations between length of employment in any category and cancer risk. In conclusion, this study revealed associations of esophageal adenocarcinoma with employment in administrative support, health services, and a category of financial, insurance, and real estate industries, and of gastric cardia adenocarcinoma with transportation and certain woodworking occupations. However, our results suggest that, overall, workplace exposures play a minor role in the etiology and upward trend of esophageal and gastric cardia adenocarcinomas.