A Descriptive Analysis of Gastric Cancer in Alaska

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Background

- Gastric (or stomach) cancer is categorized into two main classes: 1) gastric cardia cancer (top inch of stomach) and 2) non-cardia gastric cancer (all other areas of the stomach).
- It is the fourth most common malignancy and the second most common cause of cancer related death in the world.
- In 2013, 216,000 new cases were diagnosed in the U.S.—10,000 of which died.
- Although cancer data have been collected in Alaska, the data were never analyzed to determine epidemiology.
- This study provides a detailed epidemiologic descriptive analysis to inform public health professionals, populations, and community partners.

Methods

- Data from 1996 to 2011 were collected and analyzed from Alaska Cancer Registry (ACR). Rates were calculated per 100,000 and age-adjusted to the 2000 U.S. Standard Population.
- Total sample size, N= 587; patients diagnosed with gastric cancer; all races; and all ages.
- Rate distribution and case counts were analyzed for 32 borough/census areas of Alaska (2010 U.S. Census).
- When comparing trends for Alaska and the U.S., this study used U.S. statistics from the National Cancer Institute's SEER*Stat statistical program that combined data from the National Program of Cancer Registries and National Cancer Institute's SEER Program for diagnosis years 1999 to 2011.

Results

- Highest incidence rates (per 100,000) were attributed to Prince of Wales-Hyder Census area (39.2), Northwest Arctic Borough (37.3), North Slope Borough (36), Bethel census area (26.6) and Wade Hampton census area (26.5). Figure 1.
- Alaska rates (per 100,000) by race/ethnicity (per 100,000) were higher for AN/AI (22.1) as compared to Blacks (8.9), Whites (5.2) and A/PI (14.8). Figure 2.
- Disease distribution by race/ethnicity and sex indicated that for all race/ethnicities combined, male incidence (11.6 per 100,000) was twice as high as female incidence (5.4 per 100,000); Figure 3.
- Incidence rate for White males (7.6 cases per 100,000) was two times higher than for White females (2.9 per 100,000); Black males (15.7 per 100,000), five times higher than Black females (3.2 per 100,000); and AN/AI, higher in males (29.3 per 100,000) than in females (16.5 per 100,000). Figure 3.
- Gastric cancer incidence rates in Alaska decreased between 1996 and 2011, from 8.9 per 100,000 in 1996 to 7.2 per 100,000 in 2011. Figure 4.
- Incidence rates fluctuated between this time period (1996-2011). Higher rates were recorded in 1998 (11.6 per 100,000) and in 2002 (10.6 per 100,000); the lowest rate 6.3 per 100,000. Figure 4.
- Age was significantly related to disease development. No cases were reported in ages 0 to 14 years; the age-specific rate at >65 years was more than double the overall state rate. Figure 5.

Conclusions

This study found males were twice as likely than females to be diagnosed with gastric cancer. The rate for Alaska Native males and Asian/Pacific Islanders males was much higher than males from other races/ethnicities. Based on the study findings, recommendations include the following:
- Launch health education campaigns for at-risk groups.
- Make health care services available for at-risk groups.
- Education of local health community workers and health care professionals.
- Promote new ways of preservation of food in rural communities and consumption of fresh fruits and vegetables.
- Encourage patients to discuss their family history with healthcare providers, to determine potential risks for inherited cancer syndromes.