Stomach cancer in North America: geographic variation in net survival by age and sex (CONCORD-2)

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Survival trends in 56 countries 1995-2009

1995-1999

2000-2004

2005-2009

Allemani et al. Lancet 2015; 385: 977-1010
Objective

• To describe the geographic distribution of five-year net survival by age and sex
  – Canada and the US
  – Adults diagnosed with stomach cancer during 2005-09
Methods

• Stomach cancer patients
  – 43 population-based cancer registries
    • Canada: 9 of 13 provinces
    • USA: 34 of 51 states
  – ICD-O-3 topography codes: C16.0–C16.9
  – Follow up: vital status at 31 December 2009
Survival analysis

– Period approach to estimate age- and sex-specific net survival at five years
  • \textit{stns} (STATA v13.0)

– Background mortality
  • Canada: single-year-of-age life tables by sex, province, calendar year
  • US: single-year-of-age life tables by sex, state, calendar year and \textbf{race}
    – Exceptions: New Hampshire, Idaho, Rhode Island

– Sex differences in net survival
  • Z-test [\(\alpha<0.05\)]
Results

116,533 patients diagnosed between 2005 and 2009 in North America

16,208 in Canada
- 619 non-eligible patients
- 365 exclusions, of which 2.2% DCOs

15,224 available for analysis

840 exclusions, <50 patients in a registry, by sex in an age-group

4,993 women
9,391 men

100,325 in the US
- 11,802 non-eligible patients
- 1,822 exclusions, of which 1.8% DCOs

86,701 available for analysis

3,727 exclusions, <50 patients in a registry, by sex in an age-group

31,399 women
51,575 men

5-year net survival (%) by age and sex

Men: 15-44 years

Women: 15-44 years
5-year net survival (%) by age and sex

Men: 45-54 years

Women: 45-54 years
5-year net survival (%) by age and sex

Men: 55-64 years

Women: 55-64 years
5-year net survival (%) by age and sex

Men: 65-74 years

Women: 65-74 years
5-year net survival (%) by age and sex

Men: 75-99 years

Women: 75-99 years
Absolute difference (%) in net survival (women – men)

15-44 years

45-54 years

55-64 years

65-74 years

75-99 years

0.0 to 4.9%
5.0 to 9.9%
10.0 to 14.9%
15.0 to 19.9%
Survival by age and sex, New York State, 2005-2009

Men

Women

Net Survival (%)

Years since diagnosis

New York
Age group 15-44

Men

Women

Net Survival (%)

15-44

+ 6.6%
Age group 45-54

Men
Women

New York

+ 4.1%
Age group 55-64

Net Survival (%)

Years since diagnosis

Men

Women

New York

Age group

55-64

+ 9.5%
Age group 65-74

Men

Women

Net Survival (%)

Years since diagnosis

+ 7.5%
Age group 75-99

Men

Women

Net Survival (%)

Years since diagnosis

+ 6.4%
Conclusions

• Wide geographic variability in stomach cancer survival within North America

• In each age group, men have lower survival from stomach cancer than women
Conclusions

• Wide geographic variability in stomach cancer survival within North America

• In each age group, men have lower survival from stomach cancer than women

Possible explanations
Biological differences
Sub-site
Morphologic type
Stage at diagnosis
Treatment
Thank you to:

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