Prevalence of Comorbid Medical Conditions among Elderly Colorectal Cancer Patients in the National Cancer Data Base and the SEER-Medicare Database

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Background

- The National Cancer Data Base (NCDB) is a national hospital-based cancer registry jointly sponsored by the American College of Surgeons and American Cancer Society.
- Approximately 70% of newly diagnosed cancers in the US are captured in this database.
- In 2003, NCDB began collecting data on comorbidities. Initially, up to 50 comorbidities per patient could be reported. Beginning in 2006, up to 11 comorbidities per patient could be reported.
- Other than comparisons to published estimates of comorbidity levels among cancer patients, these forms have no objective assessments of the accuracy of the comorbidity data in the NCDB.

Purpose

- To compare the prevalence of Charlson-Deyo comorbid medical conditions among elderly colorectal cancer (CRC) patients in NCDB to the prevalence in a similar population of patients in the ULIH medicare database.

Study Methods

- Study Population: In the NCDB, any 16+ Medicare beneficiaries, age 65+ years, were included in the dataset. For this study, we restricted our analyses to patients who were newly diagnosed with stage I-IV CRC between 1998 and 2007. Charlson-Deyo comorbidity index scores were calculated for these patients.
- Sample Size: 11,295 NCDB and 16,504 ULIH Medicare.
- Identifying comorbid conditions in the NCDB through:
  - Identifying comorbid conditions in SEER-Medicare through:
    - Identifying a single claim for each patient (two methods)
    - Index claim (inpatient)
    - Index claim (outpatient, or physician service claim)
    - Identifying comorbid conditions in diagnostic and procedure fields using ICD 9 CM, CPT 4 and HCPCS codes.
    - Comorbidity score exclusions: Acute myocardial infarction, Congestive heart failure, Coronary artery disease, Stroke disease and AIDS

Results

- CRC patients in NCDB were more likely to be diagnosed in advanced stage (p < 0.001) and in more recent year (p < 0.001) than patients in ULIH Medicare.
- Stage II patients in NCDB vs. 26.63% in ULIH Medicare.
- 49.71% patients diagnosed in 2007 in NCDB vs. 46.42% in ULIH Medicare.
- Using the index admission or index claim, the prevalence of the majority (60%) of comorbid conditions in NCDB was not significantly different from the prevalence in SEER-Medicare.
- The prevalence of CHF, chronic pulmonary disease, rheumaticologic disease, and renal disease was significantly lower in NCDB than SEER-Medicare (p < 0.05).
- Number of patients who did not have any comorbid condition was greater in NCDB than in SEER-Medicare (p < 0.001).
- Comorbid conditions were significantly higher in NCDB than in SEER-Medicare (p < 0.001).

Conclusion

- Using similar methods, prevalence rates for most Charlson-Deyo comorbid conditions in NCDB were comparable to those in SEER-Medicare.
- Limitations: Although the majority of previous studies have associated comorbidity conditions that were coded 12 months or 24 months prior to cancer diagnosis, such information is not available in the NCDB.

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