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SUPPLEMENTARY INFORMATION

A Population-based Registry Cohort Study Describing the Correlation Between Bladder-intact Event-free Survival and Overall Survival in Cystectomy-ineligible/refusal Muscle-invasive Bladder Cancer Patients in Sweden

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METHODS

Data sources

The Swedish Cancer Register was established in 1958 and is maintained by the National Board of Health and Welfare. It is mandatory for all healthcare providers to report newly diagnosed cancer cases to the register. Diagnosis of cancers are registered with ICD-10 diagnosis codes. It includes medical data on the tumor, including the tumor site, histological type and TNM staging, as well as date of diagnosis and death.

The Swedish Patient Register was established in 1965, and since 2001 detailed data on all inpatient and outpatient care visits has been collected. Information collected include patient admission and discharge dates, as well as diagnoses codes (ICD-10) and procedure codes (KVÅ) for each visit. While the register also contains Anatomical Therapeutic Chemical (ATC) codes for hospital administered drugs, this information is often incomplete and is therefore not recommended as a stand-alone source for inferring treatment patterns. However, hospital ATC codes can be used as a complement to information on ATC codes retrieved from the Prescribed Drug Register.

The Swedish Patient Prescribed Drug Register was established in July 2005 and contains data on all prescribed drugs dispensed by all pharmacies in Sweden, including detailed information on date of drug dispensation, dosage and quantity based on ATC code registration. Records for drugs purchased by hospitals directly will not be visible in this register.

The Swedish Cause of Death Register is maintained by the National Board of Health and Welfare. The register includes death information, including date of death and ICD-10-coded cause of death, for all individuals in Sweden.

Charlson comorbidity index (CCI)

The CCI was determined as previously described [1] with a look-back period of 6 months prior to bladder cancer diagnosis. Briefly, ICD-10 diagnoses of comorbidities and their respective weighting in CCI are listed below:

- Acquired immunodeficiency syndrome (AIDS)/human immunodeficiency virus (HIV)
 - ICD-10: B20-B24
 - Weight in Charlson comorbidity index: 3
- Cerebrovascular disease
 - ICD-10: G45, G46, I60-I69
 - Weight in Charlson comorbidity index: 2
- Chronic pulmonary disease
 - ICD-10: I27.8, I27.9, J40-J47, J60-J64, J65-J67, J68.4, J70.1, J70.3
 - Weight in Charlson comorbidity index: 1
- Congestive heart failure
 - ICD-10: I09.9, I11.0, I13.0, I13.2, I25.5, I42.0, I42.5-I42.9, I43, I50, P29.0
 - Weight in Charlson comorbidity index: 2
- Diabetes, uncomplicated
 - ICD-10: E10.0, E10.1, E10.9, E11.0, E11.1, E11.9, E13.0, E13.1, E13.9, E14.0, E14.1, E14.9
 - Weight in Charlson comorbidity index: 0
- Diabetes, complicated
 - ICD-10: E10.2-E10.8, E11.2-E11.8, E13.2-E13.8, E14.2-E14.8
 - Weight in Charlson comorbidity index: 0
- Dementia
 - ICD-10: F00-F03, F05.1, G30, G31.1
 - Weight in Charlson comorbidity index: 2
- Mild liver disease
 - ICD-10: B18, K70.0-K70.3, K70.9, K71.3-K71.7, K73-K74, K75.4, K76.0, K76.1, K76.3, K76.4, K76.8, K76.9, Z94.4
 - Weight in Charlson comorbidity index: 2
- Moderate or severe liver disease

- ICD-10: I85, I86.4, I98.2, K71.1, K72.1, K72.9, K76.5, K76.6
- Weight in Charlson comorbidity index: 2
- Myocardial infarction
 - ICD-10: I21-I22, I25.2
 - Weight in Charlson comorbidity index: 2
- Paralysis
 - ICD-10: G04.1, G11.4, G80-G83
 - Weight in Charlson comorbidity index: 1
- Renal disease
 - ICD-10: I12.0, I13.1, N18, N19, N25.0, Z49, Z94.0, Z99.2
 - Weight in Charlson comorbidity index: 1
- Rheumatoid arthritis or collagen vascular disease
 - M05-M06, M31.5, M32-M34, M35.0, M35.1, M35.3
 - Weight in Charlson comorbidity index: 0
- Tumor, with metastasis
 - ICD-10: C77-C79, C80
 - Weight in Charlson comorbidity index: 5
- Tumor, without metastasis; excluding bladder cancer
 - ICD-10: C00-C26, C30-C34, C37-C41, C43, C45-C58, C60-C66, C68-C76, C81-C85, C88, C90.0, C90.2, C96
 - Weight in Charlson comorbidity index: 3
- Valvular disease
 - ICD-10: I05-I08, I09.1, I09.8, I34-I39, Q23.0-Q23.3, Q23.8, Q23.9, Z95.2, Z95.3, Z95.4
 - Weight in Charlson comorbidity index: 0
- Ulcer disease
 - ICD-10: K25-K28
 - Weight in Charlson comorbidity index: 0

REFERENCES

1. Simard M, Sirois C, Candas B. Validation of the Combined Comorbidity Index of Charlson and Elixhauser to Predict 30-Day Mortality Across ICD-9 and ICD-10. *Med Care*. 2018;56(5):441. doi:10.1097/MLR.0000000000000905