PS2-12:

Age, Comorbidity and Breast Cancer Severity - Their Impact on Receipt of Guideline Therapy and Rate of Recurrence Among Older Women with Early Stage Breast Cancer

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Background/Aims: Mastectomy and breast conserving surgery followed by radiotherapy are considered initial guideline therapies for early stage breast cancer with randomized trials demonstrating reduced risk of recurrence. However, older women and those with comorbidities frequently receive only breast conserving surgery. The interaction of age and comorbidity with breast cancer severity and their impact on receipt of guideline therapy have not been well studied. **Methods:** In the population-based BOW cohort of 1837 women age=65 years receiving initial treatment for early stage breast cancer in 6 integrated healthcare delivery systems in 1990-1994 and followed for 10 years, we examined predictors of receiving less than guideline therapy. We also assessed the impact of less than guideline therapy on breast cancer recurrence stratified by breast cancer severity (low, moderate, or high risk for recurrence using the 1992 St Gallen criteria). **Results:** Age and comorbidity were independently associated with receipt of less than guideline therapy after controlling for breast cancer severity and race. However, compared to those at lowest risk for recurrence, women at the highest risk were unlikely to receive less than guideline therapy (odds ratio (OR) 0.31, 95% confidence interval (CI) 0.21, 0.46) while women at moderate risk were about half as likely (OR 0.55, CI 0.36, 0.85). During follow-up, 295 women had a breast cancer recurrence. Using Cox regression modeling stratified by the 3 levels of risk for recurrence, non-receipt of guideline therapy was associated with recurrence among women at moderate (HR 5.10, CI 1.93, 13.49) and even low risk (HR 3.24, CI 1.15, 9.12). The elevated hazard rate ratio was not observed for the high risk level group (HR 1.29, CI 0.78, 2.15). Age and comorbidity were not associated with recurrence in any of the analyses. **Conclusions:** Among these older women with early stage breast cancer, decisions about guideline therapy appear to have partially balanced breast cancer severity against age and comorbidity. However, even among women at low risk of recurrence, omitting guideline therapy placed them at elevated risk of recurrence.

Keywords: Breast cancer, Cancer severity, Comorbidity

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PS2-39:

Demographic Characteristics & Follow-Up Care of Patients Tested for BRCA Mutations

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Background: Patients with inherited mutations in one or both of the BRCA1/BRCA2 genes are at substantially higher risk for developing breast cancer and other malignancies. Subsequent to testing becoming publicly available in the late 1990s, organizations such as the National Comprehensive Cancer Network (NCCN) developed guidelines to aid in the identification of high-probability mutation carriers. It is unclear, however, how closely such guidelines are followed by healthcare providers, or what testing barriers may exist among patients. Furthermore, little is known about the clinical care and surveillance received by patients after testing positive for a mutation. The primary objective of this study is to assemble a cohort of BRCA-tested patients, in order to examine their demographic characteristics and clinical follow-up. **Methods:** A cohort of approximately 4,300 patients, tested for BRCA mutations between 1997 and 2010, is being assembled using a database created and maintained by the Kaiser Permanente Southern California Regional Genetics Program. This database contains test results, as well as limited demographic and cancer history information collected during genetic counseling sessions prior to testing. These data will be linked to patient electronic medical records, providing information about diagnoses, clinical care, and pharmacy utilization. Preliminary analyses were conducted using the data from genetic counseling sessions. **Results:** At time of testing, 22% (958/4387) of patients were under forty years of age, 65% (2851/4387) between the ages of forty and sixty-four, and 14% (607/4387) were sixty-five or older. Approximately 95% (4616/4387) of tested patients were female and 5% (223/4387) male. Most patients (73%; 3185/4387) were tested between 2006 and 2010. **Conclusions:** Due to the increased cancer risk associated with BRCA gene mutations, it is important that high-probability mutation carriers be tested, and that those who test positive receive the appropriate follow-up care. The assembly of a BRCA cohort is an important first step in exploring questions surrounding patient testing, follow-up care, and clinical outcomes.

Keywords: BRCA, Cancer, Genetics

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PS2-03:

Improving Quality Of Breast Cancer Surgery Through Development of a National Breast Cancer Surgical Outcomes Database

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Background/Aims: Surgical quality is typically measured using 30-day morbidity and mortality statistics – measures that are not very meaningful for procedures such as lumpectomies and mastectomies that have extremely high survival rates. The University of Vermont previously developed a single-site Breast Cancer Surgical Outcomes (BRCASO) database to capture meaningful quality measures such as breast conservation rates, positive margins rates, and number of procedures to complete breast cancer surgery. We extended the BRCASO database to three Cancer Research Network (CRN) institutions to study variation in breast cancer surgical quality across providers, facilities, and health plans. **Methods:** The University of Vermont BRCASO data were collected on women diagnosed with breast cancer between 2003-2008 via medical record abstraction. In order to efficiently extend this work to CRN institutions, we collected electronic administrative data from each health plan (Group Health, Kaiser Permanente Colorado, and Marshfield Clinic) on women diagnosed with breast cancer between 2003-2008. Electronic administrative data included tumor registry information, Current Procedure Terminology codes for all breast cancer surgeries, study IDs for surgeons and surgical facilities, and demographic information including geocoded data. We supplemented the electronic administrative data with medical record abstraction to collect detailed information on surgical margins and lymph nodes. All medical record data were entered into a secure, online database developed using Silverlight. **Results:** Using electronic administrative data, we determined 5,673 women met the study inclusion criteria. The CRN institutions pre-filled 30% (22 out of 72) of elements using electronic data. The remaining 50 elements required chart abstraction, which took approximately 45-60 minutes per record. **Conclusions:** Electronic administrative data, while useful for research, have limitations and may not suit the needs of all studies. In our study, using electronic administrative data substantially decreased the amount of chart abstraction required at the CRN institutions; however, was not exclusively sufficient for all abstraction. Although manual abstraction was necessary for high quality data, the use of an electronic system greatly facilitated this effort and helped expand the BRCASO database to become the only multi-site source of detailed surgical quality information in the country.

Keywords: Breast cancer, Surgical quality, Database

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