Co-morbidities in Elderly Breast Cancer Patients treated with Chemotherapy

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Presenter Disclosure Information

Romina Sosa, MD, PhD

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None.

OFF-LABEL PRODUCT USE DISCLOSURE:
None.
Introduction

• Chemotherapy intensity (CI) is well known to increase the risk of myelosuppression and risk for febrile neutropenia and potential infectious hospitalization risk.

• Co-morbidity and severity of disease may also impact how clinicians select chemotherapy intensity particularly in elderly Medicare populations.

• We characterized the relationship of CI with age, co-morbidities/severity of disease, and antibiotic/GCSF supportive care using Medicare claims data.
Methods

- **Cohort**: Elderly (ages 65+) breast cancer patients who initiated their first course of chemotherapy between 7/1/2007 and 11/30/2011.

- **Data**: 20% Medicare sample with Parts A and B coverage

- **Chemotherapy Intensity (CI)** was approximated by the number of different IV agents reported on claims during the first cycle of therapy.
  - Classified into low (1 agent), medium (2 agents), and high (3+ agents)

- **Co-morbidity, prior hospitalizations and age** were defined in the 6 months before chemotherapy initiation.

- **Timing of initial G-CSF and antibiotics use** were identified during the first cycle of chemotherapy.
  - On or before day 5 = day 0 (1st day of cycle) through day 5 of 1st cycle
  - After day 5 = day 6 of the 1st cycle until the earliest of the end of the 1st cycle or the censor date (death or end of coverage)
Age Influences Choice of Chemotherapy Intensity

- Patients 80+ y/o were more likely to receive less intensive chemotherapy.
- Patients < 75 y/o age are more likely to receive more intensive chemotherapy.
Co-morbidity Profile Influences Choice of CI

% of Patients by select Co-morbidities

- Anemia
- Cardiac Arrhythmia
- Chronic kidney disease
- Congestive heart failure
- Other cancer
- Peripheral vascular disease

- Patients treated with low CI have greater co-morbidities than those treated with higher intensity regimens.
Prior Hospitalization Influences Choice of CI

- 29% of low CI pts. and 37% of medium and high CI pts. had at least one hospitalization during the 6 months prior to chemotherapy

Of the patients with at least one baseline hospitalization:

1) 42% (low CI), 21% (medium CI), and 18% (high CI) patients had 7 or more total hospital days during baseline

2) 16.4% (low CI) and ~8% (medium and high CI) patients were hospitalized for infection

3) 14.8% (low CI) and ~7% (medium and high CI) patients were hospitalized for cardiovascular disease

Baseline hospitalizations were defined as at least an overnight stay during the 6 months prior to chemotherapy initiation.
GCSF Is Used More Frequently With Higher Intensity Regimens

- Overall, GCSF is used more frequently in BC patients receiving higher intensity chemotherapy.
- Prophylactic use is more common with higher intensity regimens.
- Non-prophylactic use (after day 5) is also more frequently used with higher intensity regimens.
Oral Antibiotics Are Used More Frequently in BC Patients Treated With Higher Intensity Regimens

- Overall, antibiotics are not frequently used as supportive care in the Medicare BC population.
- Prophylactic use (on or before day 5) is more common with higher intensity regimens.
- Non-prophylactic use (after day 5) is also more frequently used with higher intensity regimens.

<table>
<thead>
<tr>
<th>% of Part D Covered Patients with Antibiotic (IV or oral) Use</th>
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<td>On or before day 5</td>
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<tr>
<th>% of population studied</th>
<th>low 3,177</th>
<th>medium 4,252</th>
<th>high 1,294</th>
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N pts. 3,177 4,252 1,294

% of Part D Covered Patients
with Antibiotic Use

- On or before day 5
- After day 5
- No Use

Overall, antibiotics are not frequently used as supportive care in the Medicare BC population.

Prophylactic use (on or before day 5) is more common with higher intensity regimens.

Non-prophylactic use (after day 5) is also more frequently used with higher intensity regimens.
Conclusions

• In the Medicare BC population, patients receiving less aggressive chemotherapy were older and more likely to have co-morbidities, suggesting practitioners likely use these criteria to determine CI.

• Supportive care with GCSF and antibiotic use was also more prevalent in patients receiving higher intensity chemotherapy regimens.
  ▫ Further studies are warranted to examine the benefit of supportive care measures at preventing febrile neutropenia or infectious complications related to CI.

• In light of the potential for changing Medicare reimbursement for chemotherapy, these data show that decisions about bundling payments may need to consider patient age, co-morbidity, and prior hospitalizations.