Assessing Clinical and Sociodemographic Trends in Contralateral Prophylactic Mastectomy at an Urban Tertiary Care Center

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Abstract

❖ **Background**: The rate of patients undergoing contralateral prophylactic mastectomy (CPM) for unilateral breast cancer has been rising dramatically despite emerging guidelines which discourage CPM in low-risk patients due to lack of survival benefit. The decision to undergo CPM is personal and often multi-factorial and has not been well-studied. This study aimed to identify clinical and sociological factors associated with the decision to pursue CPM in an urban, underserved community.

❖ **Methods**: A retrospective review of 259 patients with unilateral breast cancer who underwent mastectomy from 2012-2025 at a tertiary care hospital system was performed. Variables included sociodemographic and clinical features. Primary outcome was rate of CPM. Statistical analyses were performed in SPSS.

❖ **Results**: Total rate of CPM in our population was 29% (n=75) and total rate of reconstruction was 18% (n=47). No male patients (n=9) underwent CPM, whereas rate of CPM in female patients was 30% (p=0.0627). Among female patients, patients who underwent CPM were on average 13.6 years younger than controls ($p < 0.001$). Having private insurance vs. public insurance (p=0.084) and being currently employed vs. unemployed (p=0.073) trended towards significance for association with CPM. Among clinical factors, undergoing surgical reconstruction (p=0.002), and undergoing neoadjuvant chemotherapy (p=0.001) were associated with CPM. There was no significant association between CPM and racial or ethnic group, tumor size, histologic subtype, clinical stage, or hormone receptor positivity.

❖ **Conclusion**: In our urban population, social factors such as age, insurance status, and employment status and whether patients additionally underwent surgical reconstruction or neoadjuvant treatment with chemotherapy may play a role in the decision to undergo CPM. In management of patients with unilateral breast cancer, surgeons may consider such nuances in patient decision-making when guiding conversations surrounding CPM.

Introduction

❖ Rate of patients undergoing CPM for unilateral breast cancer has been rising dramatically.[1]

❖ Emerging guidelines discourage CPM in low-risk patients due to lack of survival benefit.[2]

❖ Drivers behind the decision to undergo CPM has not been well-studied, especially in urban populations.

Methods and Materials

❖ **Study design:** Retrospective chart review

❖ **Population:** 259 adults with unilateral breast cancer who underwent mastectomy from 2012-2025 at Montefiore.

❖ **Primary outcome:** Rate of CPM

❖ **Independent Variables:** Age, sex, race, ethnicity, insurance status, employment, tumor size, histologic subtype, clinical stage, hormone receptor positivity, subsequent surgical reconstruction, and neoadjuvant chemotherapy (NAC).

Results

❖ **Prevalence:**
- Total rate of CPM was 29% (n=75).
- Total rate of reconstruction was 18% (n=47).

❖ **Sociodemographic features:**
- No male patients (n=9) underwent CPM; 30% of female patients underwent CPM (p=0.0627).
- CPM patients were 13.6 years younger ($p < 0.001$).
- CPM patients were more likely to have private insurance (p=0.084) and to be employed (p=0.073).
- No association between CPM and race or ethnicity.

❖ **Clinical features:**
- Undergoing surgical reconstruction (p=0.002) and NAC (p=0.001) were associated with CPM.
- No association between CPM and tumor size, histologic subtype, clinical stage, or hormone receptor positivity.

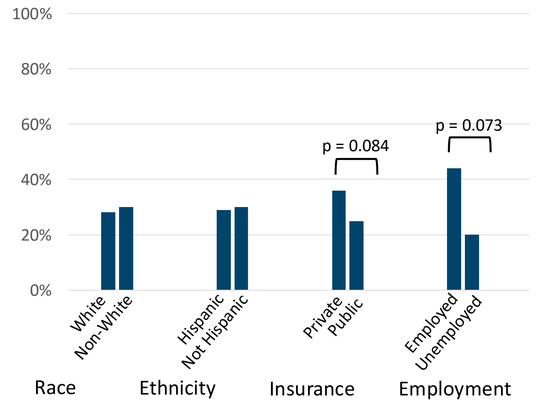


Chart 1. Percentage of patients who underwent CPM by demographic characteristics.

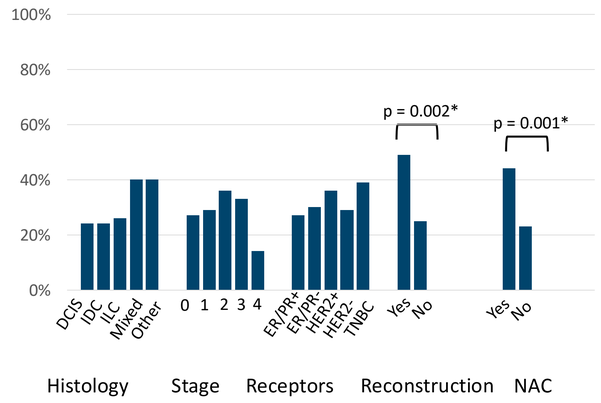


Chart 2. Percentage of patients who underwent CPM by clinical characteristics.

Discussion

❖ **Prevalence:**
- Nearly one-third (29%) of patients elected for CPM, despite guidelines discouraging CPM in low-risk cases, consistent with national estimates.[3]

❖ **Sociodemographic factors:**
- Association with younger age may be explained by anxiety surrounding long-term risk and desire for symmetry.
- Association with private insurance coverage and employment may reflect disparities in access to elective operations.

❖ **Clinical Factors:**
- Association with reconstruction implies aesthetic motivations surrounding CPM.
- Association with NAC could reflect increased disease burden or perceived recurrence risk.
- Histology, stage, and receptor status were not predictive of CPM choice, suggesting that patient preference and psychosocial factors may outweigh clinical risk indicators in surgical decision-making.

Conclusions

❖ **Limitations**: Sample size, single-center setting, retrospective design, patient-reported nature of sociodemographic data

❖ **Future directions**: Qualitative assessment of patient perspectives through survey study is underway.

❖ **Conclusion**: Understanding the interplay between clinical and sociodemographic factors can help guide shared decision-making, ensuring that choices around CPM are informed, equitable, and aligned with evidence-based recommendations.

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