

Contralateral Prophylactic Mastectomy Rates Before and After Providing Patient Decision Aid

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BACKGROUND

Contralateral prophylactic mastectomy (CPM) is the removal of the healthy breast in women diagnosed with unilateral breast cancer. This procedure is being performed with increasing frequency in the United States in women without a genetic predisposition even though it is not associated with a survival advantage^{1,2}. The reasons behind this increasing trend are multifactorial yet much of the literature suggests that it is patient driven. Therefore, a major component could be due to inadequate and inconsistent patient counseling during surgical consultation.

For the average risk woman, the risk of a new contralateral breast cancer is about 0.4% per year, yet women overestimate this by 5-6 fold³. In addition to reducing their perceived risk, women report choosing a CPM to provide peace of mind, reduce anxiety over continued screening, improve symmetry, and on the advice of family and friends⁴. CPM should be discouraged for the average risk woman. Postoperative complications such as skin necrosis, autologous flap loss, and infected implants may delay adjuvant therapy and increase the risk for recurrence. Following a CPM, a significant number of patients report chronic pain, poor cosmetic outcomes, and sexual dysfunction^{5,6,7}.

A patient decision aid is a tool that is designed to augment counseling from a physician by providing information about the options and outcomes surrounding a specific decision⁸. The use of a decision aid has been examined in several studies and has been shown to improve shared decision making and patients' understanding of their diagnosis and treatment options. However, significant barriers prevent integrating a decision aid into clinical practice at the initial consultation. Such barriers include physician time constraints, physician motivation, and organization policy barriers^{9,10}.

OBJECTIVES

1. Develop educational materials to serve as a patient decision aid for CPM with specific regard to the risks and benefits of the procedure and recommendations for or against CPM for each patient
2. Assess the rate of CPM at Lynn Sage Comprehensive Breast Center after providing patients with educational materials at the initial consultation and compare this rate to historical controls

HYPOTHESIS

Patients will be able to make a more informed decision about their breast surgery, thus decreasing the rate of CPM.

PROSPECTIVE CLINICAL TRIAL DESIGN

This is a prospective cohort study to determine whether there is a statistically significant difference between the CPM rates before and after providing a decision aid.

ELIGIBILITY CRITERIA

All newly diagnosed women with breast cancer will be provided the decision aid at their initial consultation. Patients with a significant family history or known genetic predisposition, and patients with recurrent, metastatic, or inflammatory breast cancers will be excluded from the analysis.

STATISTICAL METHODS

Receipt of CPM is the primary dependent variable for analysis and will be measured according to a review of electronic medical record over the course of 2 consecutive years. A Wilcoxon signed rank test will be used to analyze the data.

PRESENT AND PLANNED ACCRUAL

A minimum of 300 retrospective and 300 prospective patients will be included in the data analysis in calculating the CPM rate.

RESULTS

The initial (pre-intervention) rate of CPM performed at the Lynn Sage Comprehensive Breast Center at Northwestern Memorial hospital from January 2022 to December 2022 was 53.0% with the majority of those performed on women without a genetic mutation. The overall rate varied from surgeon to surgeon but ranged from 37.8% to 59.6%.

Recently published CPM rates are listed below for comparison.

	Year published	Year(s) studied	Data Source	Country	Rate (%)
Tuttle et al. (invasive cancer) ¹	2007	2003	SEER	USA	11.0
Tuttle et al. (DCIS) ¹¹	2009	2005	SEER	USA	5.2
Guth et al. ¹²	2012	1995-2009	Retrospective, single intuition	Switzerland	2.6
Neuburger et al. ¹³	2013	2011	Retrospective, single institution	Great Britain	3.1
Pesce et al. ¹⁴	2014	2010	NCDB	USA	9.7
Grimmer et al. ¹⁵	2015	2011	NCDB	USA	10.2
Jagsi et al. ¹⁶	2017	2013-2014	SEER	USA	17.3
Elsayegh et al. ¹⁷	2018	2014-2017	Retrospective, single institution	USA	23
Kapur et al. ¹⁸	2021	2017	Retrospective, single institution	Canada	17.3
Shaheen et al. ¹⁹	2022	2019	Optum Clinformatics DataMart	USA	6.8

CONCLUSION

The development of informative tools regarding the risks and benefits of CPM has the potential to improve shared decision making among patients and physicians. More data is needed to validate these tools.

REFERENCES

