Contralateral Prophylactic Mastectomy: Anxiety, Knowledge and Shared Decision Making

Isabelle Bedrosian, MD¹ and Katherine Yao, MD^{2,3}

¹Department of Surgical Oncology, The University of Texas MD Anderson Cancer Center, Houston, TX; ²Pritzker School of Medicine, University of Chicago, Chicago; ³Department of Surgery, NorthShore University HealthSystem, Evanston, IL

With the steady increase of contralateral prophylactic mastectomy (CPM) now well documented, attention increasingly has been directed at understanding the potential reasons driving utilization of this treatment approach. A key area is examining the perspective of patients who are making this choice and how this perspective may differ from those choosing more limited surgery. In this issue of the *Annals of Surgical Oncology*, Rosenberg et al. detail the decision-making process of young women who have opted for bilateral mastectomy. Using a large registry of young women, they explore psychological, emotional, and decision-making aspects of the choice for surgical management of breast cancer. In this cohort of patients younger than age 40 years, most of whom are not known to be BRCA 1/2 mutation carriers, they report that nearly half of the study population underwent CPM. They confirm prior associations between anxiety and fear and use of CPM and provide new insights about how surgical decisions vary depending on who is driving the decision: the physician or the patient. Significantly, nearly two-thirds of women who stated that the choice of surgical therapy was self-driven chose CPM. In stark contrast, women who reported that the decision was made by their doctor had very low rates (6 %) of CPM. In multivariate analysis, patient-driven decision was associated with threefold greater likelihood of CPM compared with those who reported shared decision making. While physician influences on use of CPM has previously been suggested, Rosenberg et al. provide more direct evidence that physician

interaction and engagement on this topic may represent one opportunity to reverse the increasing utilization of CPM.^{1,2}

Surgeons play a critical role in a patient's decision making and many patients make their surgical decision at the time of meeting with the surgeon.³ Interventions that enhance physician engagement in decision making and improve patient-physician communication have been tested in many forms and across many types of cancer. Such tools range from simple decision boards to more complex web-based instruments and are well documented to influence patients' choice of care. There have been four, randomized trials utilizing various forms of decision-making interventions for breast cancer surgery decisions. All showed an increase in patient knowledge and an increase in the use of BCT compared with mastectomy.^{4–7} However, these trials were conducted more than a decade ago and did not address CPM. In the current study by Rosenberg et al., when patients stated that the decision was made by “patient and doctor together,” there was a nearly equal distribution of all three surgical procedures. These findings suggest that a decision aid that facilitates shared decision making between patient and physician may decrease the use of CPM. In addition, decision aids have been shown to improve decision satisfaction and decrease decisional conflict, suggesting greater patient confidence in their choice when shared decision-making approaches are utilized. Thus, even if treatment choices are not impacted, the improved patient satisfaction associated with decision tools provides important rationale for use of these approaches.

An important component of decision aids is the ability to provide knowledge empowering women to make informed choices. In the area of CPM, deficits in patient knowledge have been well documented. These gaps in knowledge are manifest in number of ways, including overestimation of risk of second malignancy, poor understanding of the factors that impact risk of death from the

index malignancy, and failure to appreciate the lack of association between local therapy and risk of distant recurrence.^{8,9} Often, these factors combine to create the skewed perception and expectation that a double mastectomy will prevent any further breast cancer events and extend life. In an earlier report by Rosenberg et al., assessing the reasons for choice of CPM in this same cohort of young breast cancer patients, the “desire to improve survival or extend life” was cited by 79 % of the patients and the “desire to prevent breast cancer from spreading to other parts of the body” was cited by 69 % of the patients as an “extremely important” reason for choosing CPM.⁹ However, when these same patients were queried about which women live longer, 71 % answered that there was no difference between the different surgical procedures. These data highlight a degree of cognitive dissonance between a patient’s knowledge level and treatment choices. Thus, it is critical to understand and address the variables that drive this disconnect if treatment choices are to be better aligned with the knowledge gained through shared decision-making approaches.

As shown in several studies, including the current Rosenberg study, women who choose to undergo CPM had higher levels of anxiety compared with those who opt for lesser procedures. The corollary to anxiety is fear of recurrence and cancer distress. Indeed, in almost all studies on the topic, fear of and desire to avoid recurrence and “peace of mind” are oft-cited reasons by women who choose to undergo CPM.^{9,10} These emotional factors may conflate not only the perceived risk of second malignancy but whatever survival benefit CPM provides. These factors may contribute to the internal dissonance in women who may objectively understand the data around CPM but subjectively feel compelled nonetheless to pursue a CPM. Thus, strategies that integrate assessment and treatment of anxiety and fear are needed alongside efforts to educate and inform on the oncologic aspects of CPM.

It is clear from the Rosenberg study and others that the considerations surrounding the decision to pursue CPM are complex, multifaceted, and span both patient and physician

domains. Rosenberg et al. provide compelling data about the importance of shared decision making and its potential to reduce the rates of CPM. However, progress in impacting current trends will require a comprehensive strategy that focuses not just on the development of tools that promote shared decision making but also addresses knowledge deficits and manages fear and anxiety.

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