



Choosing High-Risk Screening vs. Surgery and the Effect of Treatment Modality on Anxiety and Breast-Specific Sensuality in BRCA Mutation Carriers

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Abstract ID: 578732

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Introduction

- We previously showed that breast cancer surgery affects breast-specific sensuality, and mastectomy patients may have worse sexual function outcomes than lumpectomy patients.
- It less clear if patients with a BRCA mutation (mBRCA) undergoing prophylactic mastectomy are similarly affected.
- We sought to compare sexual function outcomes and their relationship to depression and anxiety between BRCA mutation carriers with and without cancer in order to guide surgical counseling and improve survivorship outcomes.

Methods

Study type: Cross-sectional survey

Subjects: Female patients ≥18 years old with BRCA mutations

Survey instrument:

- Investigator-generated questions eliciting demographic and treatment characteristics, and breast-specific sensuality
 - Importance of the role of the chest in intimacy
 - Pleasurable caress before/after surgery
- Female Sexual Function Index (FSFI)
- Hospital Anxiety and Depression Scale (HADS)

Results

Table 1. Demographics and Treatment Variables of BRCA Mutation Carriers

	Without BC (n=32)		With BC (n=31)	
	BPM	HRS	M	L
N (%)	7 (22)	25 (78)	23 (74)	8 (26)
Age				
18-39	2 (29)	6 (32)	2 (10)	0 (0)
40-59	4 (57)	11 (58)	12 (57)	6 (86)
60-79	1 (14)	2 (11)	7 (33)	1 (14)
Age at Mutation Diagnosis				
18-39	2 (29)	2 (29)	2 (29)	2 (29)
40-59	4 (57)	4 (57)	4 (57)	4 (57)
60-79	1 (14)	1 (14)	1 (14)	1 (14)
Postmenopausal	5 (71)	16 (70)	15 (79)	8 (100)
Pre/Perimenopausal	2 (29)	5 (22)	2 (11)	0 (0)
Unsure	0 (0)	2 (9)	2 (11)	0 (0)
History of BSO	5 (71)	18 (72)	19 (91)	8 (100)
Prophylactic (premenopausal)	3 (43)	4 (16)	4 (19)	2 (25)
Prophylactic (postmenopausal)	2 (29)	11 (44)	14 (67)	6 (75)
Ovarian cancer	0 (0)	3 (12)	1 (5)	0 (0)

BC: Breast cancer
BPM: Bilateral prophylactic mastectomy
HRS: High-risk screening

M: Mastectomy
L: Lumpectomy
BSO: Bilateral salpingo-oophorectomy

Results

Surgical Decision-Making in mBRCA without Breast Cancer

- 86% reported they themselves played the biggest role in their decision regarding prophylactic mastectomy.
- 3.5% reported surgeon had the greatest influence on her decision.

Surgical Decision-Making in mBRCA with Breast Cancer

- 26% chose to undergo lumpectomy.

Table 2. Sexual Function (Median FSFI) by Group

Group	Median Score (range)	p-value
Without Breast Cancer	27.1 (10.2-35.1)	0.46
With Breast Cancer	22.5 (14.7-33.8)	
Prophylactic Mastectomy	30.7 (19.1-34.8)	0.25
High-Risk Screening	26.2 (10.2-35.1)	
Prophylactic Mastectomy	30.7 (19.1-34.8)	0.23
Mastectomy for Cancer	23.6 (14.7-33.8)	

Bold denotes scores below cutoff for sexual dysfunction (26.55)

Table 3. Breast-Specific Sensuality

Response	Without BC (n=32)	With BC (n=31)	p-value
The chest plays an important role in intimacy	67%	46%	0.019
Pleasurable caress before surgery	86%	90%	n/a
Pleasurable caress after surgery	43%	19%	
Reported a decline in pleasurable caress after mastectomy	71%	100%	<0.001

Pleasurable includes moderately pleasurable, very pleasurable
Unpleasant includes moderately unpleasant, very unpleasant

Table 4. HADS Correlations (rho) with FSFI

	HADS Anxiety		HADS Depression	
	Rho	P-value	Rho	P-value
FSFI Total	-0.28	0.2	-0.49	0.01
FSFI Domain:				
Desire	-0.15	0.5	-0.46	0.02
Arousal	-0.14	0.5	-0.29	0.2
Lubrication	-0.18	0.4	-0.40	0.05
Orgasm	-0.20	0.3	-0.24	0.2
Satisfaction	-0.43	0.03	-0.57	0.003
Pain	-0.09	0.7	-0.37	0.07

Results

Anxiety and Depression

- HADS anxiety and depression scores not different between those who chose prophylactic mastectomy or HRS, but all who underwent prophylactic mastectomy felt less anxious now that their breasts had been removed.
- Median HADS anxiety and depression scores were not different between those who underwent lumpectomy v. mastectomy

Conclusions

- As the availability of genetic testing increases, more women are found to harbor BRCA mutations and must choose between high-risk screening and prophylactic surgery.
- Women with BRCA mutations, sometimes diagnosed before menopause, are susceptible to derangements in sexual function during the course of both screening and treatment, and this appears to be correlated to both depression and anxiety.
- We found that mastectomy, prophylactic or therapeutic, negatively impacts breast specific sensuality and sexual function, although mBRCA with a breast cancer diagnosis may be more affected.
- Providers should be aware of these outcomes to offer early screening and intervention for these life-altering derangements that may be more pronounced in the treatment and not the prevention setting.

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