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Perioperative sexual interest in women with suspected gynecologic malignancies

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HIGHLIGHTS

- Sexual health is an important part of gynecologic cancer patients' quality of life.
- Sexual interest and desire is significantly impacted by gynecologic cancer surgery.
- Perioperative counseling should address the changes in sexual health after surgery.

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ABSTRACT

Objectives. For women with gynecologic cancer, the impact of surgery on sexual interest and desire in the immediate and later postoperative period is not well characterized. The objective of this study was to report the perioperative trends of changing sexual interest and desire in a cohort of women undergoing surgery for suspected gynecologic malignancies.

Methods. This is an ancillary analysis of a cohort study analyzing health-related outcomes in women who underwent primary surgical management of a suspected gynecologic malignancy between 10/2013 and 10/2014. Subjects completed the Patient-Reported Outcomes Measurement Information System Sexual Function and Satisfaction Questionnaire (PROMIS-SFQ) preoperatively and questions on sexual interest and desire at one, three, and six months postoperatively. Bivariate tests and multiple linear regression were used to analyze data.

Results. Of 231 women who completed a baseline PROMIS-SFQ, 187 (81%) completed one-month, 170 (74%) three-month, and 174 (75%) six-month follow-up interviews. Following surgery, 71% of enrolled subjects were diagnosed with a malignancy. Women age <55 had a greater decrease in sexual interest from baseline to one month than women age >55 (-5.5 ± 1.0 vs -2.3 ± 0.9, $p = 0.02$). In a multivariable analysis, age <55 remained associated with a larger decrease in sexual interest at one month postoperatively (-4.6, 95% CI: -1.8, -7.4), as did having cancer vs benign disease for women of all ages (-5.6, 95% CI: -9.6, -1.5).

Conclusions. This study provides new data regarding the timing and magnitude of changes in sexual interest following gynecologic oncology procedures.

1. Introduction

Women with gynecologic cancer have identified sexual health as an important dimension of quality of life [1]. Gynecologic oncology treatments have been known to affect sexual health, and gynecologic cancer survivors often report some form of sexual dysfunction [2]. Prior studies have identified four domains of sexual health that are adversely affected by gynecologic cancer treatments: 1) body image, 2) gender role functioning, 3) sexual functioning, and 4) fertility [3]. As such problems persist well into the survivorship phase, sexual health issues greatly influence patients' ability to adjust and cope with the sequelae of gynecologic cancer [4]. Appropriately, the primary focus of cancer treatment centers on eradicating disease; however, even post-operatively, sexual health and the effect of treatment on sexual function are rarely

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addressed in routine oncologic counseling due to a number of patient and provider perceived barriers [5].

As women with gynecologic cancer have pathology that directly affects sexual organs, it is not surprising that a large proportion of women with gynecologic cancer report some form of sexual problem [2]. Furthermore, psychological distress from a cancer diagnosis and the physical pain and discomfort associated with undergoing surgery and adjuvant treatment can also negatively affect sexual health [6]. While surgical removal of gynecologic organs, such as the uterus, cervix, fallopian tubes and ovaries, can directly impact physical sexual function, the impact of surgery on sexual interest and desire in the immediate and later postoperative period for this patient population is not well characterized. Understanding these potential changes to sexual interest and desire after surgery can help physicians to better prepare women for postoperative survivorship [7]. Thus, the objective of this study was to investigate the patient-reported changes in sexual interest and desire in a cohort of women undergoing surgery for suspected gynecologic cancer, from baseline to six months after surgery.

2. Methods

This is an Institutional Review Board (IRB) approved ancillary analysis of a prospective longitudinal hospital-based cohort study of women enrolled in The Health Registry/Cancer Survivorship Cohort (HR/CSC) at the University of North Carolina (UNC). The primary study evaluated the impact of surgical complications on health-related quality of life in women undergoing gynecologic and gynecologic oncology procedures. In this primary study, all patients provided informed consent, and details on the study methods and recruitment have been previously published [8,9]. Briefly, for the HR/CSC, patients are identified and recruited through the UNC Health Care oncology outpatient clinics with the following eligibility criteria: age 18 years or older; North Carolina mailing address; and speak English or Spanish. Patients who are unable to provide informed consent or participate in interview questionnaires are excluded. For the primary study, eligibility was further restricted to HR/CSC patients who were recruited through the gynecologic oncology clinics with newly diagnosed suspected gynecologic cancer and planned surgical management. Exclusion criteria included primary surgery completed or to be completed at an outside institution, active chemotherapy or radiation treatment, and pregnancy. Among women with suspected cancer, those with final benign disease (29%) were retained in this analysis given that they underwent similar surgical procedures as those who ultimately received a cancer diagnosis. Stratified analysis comparing benign to cancer diagnosis was incorporated.

After enrollment, which occurred at the new patient visit, baseline interviews were conducted within two weeks, prior to surgery, by trained staff using a computer-assisted telephone interview software tool specifically developed for the HR/CSC. Follow-up interviews were conducted at one, three, and six-months after surgery. Patients were included who completed follow-up interviews within a three-week interval around each targeted time point (one week prior or up to two weeks after the target date [e.g. one, three or six months post-surgery]). Participants received gift cards as compensation after completion of each interview.

The structured Patient-Reported Outcomes Measurement Information System Sexual Function and Satisfaction Questionnaire (PROMIS-SFQ) was given to all participants at the baseline, preoperative interview [10]. The PROMIS-SFQ is validated to assess symptoms related to sexual function. The questionnaire has 10-items, which evaluates female sexual function and impact on quality of life. Within the questionnaire there are four subdomains: 1) global satisfaction with sex life, 2) interest in sexual activity, 3) lubrication, and 4) vaginal discomfort. Symptom severity is graded on a 10-point Likert-type scale over the past 30 days. PROMIS is scored using T-scores, which are standardized to the U.S. general population and have a mean of 50 and a standard deviation of 10. Scores above or below 50 are above or below the population average in the U.S., respectively. A clinically meaningful difference, or minimally important difference (MID), for change in T-score for this scale is defined as one-half standard deviation (5 points) above or below population norms. The follow-up sexual data consisted of two questions on sexual interest and desire from the PROMIS-SFQ that each participant was asked at the one, three, and six month follow up: 1) "In the past 30 days, how interested have you been in sexual activity?" and 2) "In the past 30 days, how often have you felt like you wanted to have sex?" Responses from the baseline questionnaire and the limited, two-question survey on sexual interest and desire given at the follow up interviews were used for this analysis.

Patient age, self-reported race/ethnicity, marital status, and employment status were obtained from the HR/CSC baseline interview. Clinical data were abstracted from the electronic medical record at the time of new patient visit (BMI, co-morbid conditions, and cancer site) and during the 30-day post-operative follow up window (surgical procedure, postoperative complications, and adjuvant treatment plan). Insurance status at the time of new patient visit was also abstracted from the medical record. The medical record information was then merged with the HR/CSC demographic and interview data.

Univariate summary statistics were generated using simple frequencies and means with standard deviation where appropriate. Sexual interest scores were analyzed overall, and then stratified by selected clinical groups: final pathology, surgical route, menopausal status (age >55) and occurrence of postoperative complications. Student *t*-test was used to compare mean score changes between these groups. Multivariable modeling adjusting for cancer diagnosis, route of surgery, marital status and cancer site was performed with linear regression to compare the change in sexual interest by age. A p value <0.05 was considered statistically significant. Analysis was completed using Stata/IC version 13.0 (College Station, TX).

3. Results

Of 281 women who initially consented for the parent study, 231(82%) completed baseline interviews. Of the 50 non-participants, 12 were ineligible due to protocol or withdrawal, and 38 did not reply to interview requests. Of the 231 women who completed the baseline interview, 187 completed one-month interviews, 185 of whom had complete medical record abstraction. These 185 comprised the final study cohort based on the a priori primary outcome measure, which represents 65% (185/281) of the initial enrollment cohort and 80% of those who completed baseline interviews. Subsequent follow up rates, based on the baseline interview, were 74% (170/231) at 3-months and 75% (174/231) at 6-months for the secondary outcome measures (Supplemental Fig. 1).

The demographics and baseline characteristics, including sexual function, of the study cohort are presented in Table 1. For the overall cohort, age at diagnosis ranged from 22 to 93 years, with a median of 58 and interquartile range of 46–81. The majority of subjects identified as White or Black; those who identified themselves as Asian (n = 2, 1%), Native American (n = 3, 1.6%), and Other (n = 5, 2.7%) were collapsed into an "Other" category for reporting. Of the eight subjects who identified as "Hispanic," one subject considered herself White, one as Black, and five as Other. The majority of patients underwent minimally invasive surgery, which included traditional or robotic-assisted laparoscopic surgery, and 13 (7%) of those patients underwent radical hysterectomy. The majority of patients had uterine cancer (45%), followed by ovarian, cervical, vulvovaginal and other, which included gastrointestinal and unspecified gynecologic cancer. For those undergoing laparotomy, 20 (10%) underwent debulking surgery and 12 (7%) underwent bowel surgery. BMI ranged from 17 to 58, with a median of 31.

Baseline sexual health information is also presented in Table 1. Compared with population averages (where 50 is general population mean score), at baseline, mean scores for global satisfaction with sex life in

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