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The Gynecologic Oncology Consult: Symptom Presentation and Concurrent Symptoms of Depression and Anxiety

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Abstract

Objective—To detail the relationship of gynecologic symptoms and sociodemographic variables to depression and anxiety reports among women who were referred to gynecologic oncologists for evaluation.

Methods—Consecutive patients (N = 151) from an National Cancer Institute–designated comprehensive cancer center were accrued and participated on the day of consultation. Patients completed measures assessing depression (Center for Epidemiological Studies Depression Scale) and anxiety (Beck Anxiety Inventory) symptoms, common gynecologic signs/symptoms, and sociodemographic characteristics. Patients were followed up and subsequent diagnoses yielded 73 (48%) cancer and 78 (52%) benign cases.

Results—Descriptive analyses revealed that the cancer group was significantly older (52 versus 45 years) than the benign group, and variables correlated with age also differed significantly, with the cancer sample more likely to be postmenopausal, unemployed, and if employed, working fewer hours per week. Importantly, the groups did not differ on reports of depressive, anxiety, or gynecologic symptoms. Hierarchical multiple regression analyses, collapsing across groups, yielded significant correlates of emotional distress. Women who were older, without a spouse/partner, and who had more gynecologic symptoms had higher levels of both depressive and anxiety symptoms. Among the women who did have a partner, those with relationships of longer duration reported lower levels of depression/anxiety.

Conclusion—Reports of clinically significant depressive (42%) and anxiety symptoms (30%) were high. The number of gynecologic symptoms was reliably correlated with emotional distress. Age and absence of partner may have conferred added vulnerability. For those women with partners, lengthier relationships appeared to offer protection from both depressive and anxiety symptoms.

Level of Evidence: III

Research indicates that the emotional reactions of newly diagnosed gynecologic cancer patients are severe.¹ Reports of clinically significant depressive and anxiety symptoms are common.^{2,3} Thompson and Shear⁴ suggest that at least 20% of patients are so distressed that they merit a psychiatric diagnosis, such as major depressive disorder. In contrast, the incidence of major depression in the general population is 5–6%.⁵ These emotional reactions could be attributed to the devastation of a cancer diagnosis, but other research shows that individuals are significantly distressed long before a diagnosis of malignancy is learned.^{6–8}

Emotional reactions like these might be all the more significant for women who eventually need a consult from a gynecologic oncologist. Unlike many newly diagnosed cancer patients who report they have felt “fine” or “normal” in the preceding months, women referred to a gynecologic oncologist have not. The symptoms of gynecologic disease, both benign and malignant, are significant (eg, vaginal bleeding, pelvic pain, back pain), of long duration, and accompanied by disruptions in daily activities and quality of life.^{9,10} These disruptive symptoms might compound worry associated with a possible cancer diagnosis.

This investigation examined the presence of emotional distress in a sample of women referred to a gynecologic oncologist for evaluation. An aim of the study was to describe their depressive and anxiety symptoms, and the over-arching goal was to identify variables that might relate to the magnitude of such symptoms. The variables selected were ones that could be easily identified and quantified in a busy clinic setting. Specifically, the extent of gynecologic symptomatology and the contribution of sociodemographic characteristics were tested. For example, younger age, fewer years of education, and absence of a spouse/partner have been associated with poorer psychosocial outcomes in female cancer patients,^{11,12} as has magnitude of physical symptoms.^{10,13} The analyses explore characteristics of patients that might increase vulnerability to high levels of emotional distress. Such information could potentially enable the early identification of those in need of social support services and/or referral for psychological consultation.

Materials and Methods

Patients, ages 20 to 80 years, who were referred for a gynecology oncology consultation were eligible. Second-opinion cases were excluded along with those having previous in situ or cancer diagnoses, currently pregnant, with developmental disabilities or dementia diagnoses, and/or non-English speakers.

Patients were new, consecutive cases at a university-affiliated National Cancer Institute Comprehensive Cancer Center that we accrued during their initial visit at either the center or the suburban outpatient gynecologic oncology clinic. Women were provided with oral and written informed consent that indicated the investigational nature of the study, in keeping with institutional guidelines (institutional review board protocol 10B0029). Of the 162 women eligible, 151 (94%) were accrued. With the aid of a research assistant, participants completed a 15- to 20-minute assessment consisting of demographic, psychological, and physical symptom information. Patients were followed up, and subsequent diagnoses were obtained from medical chart review and physician confirmation.

To our knowledge, there are no standardized measures of gynecologic signs and symptoms; therefore, a representative list was generated from the gynecology literature and advice of physician collaborators.^{9,10} Patients were queried about 12 common symptoms (eg, pelvic/vaginal pain, bleeding, bloating, pruritus). In addition, these symptoms and 4 common signs of gynecologic disease (eg, ascites, pelvic mass) were confirmed by the medical team on the basis of history, physical examination, and available laboratory studies. Patients were also given the opportunity to list a symptom in an “other” category. In each case, the presence (scored 1) or absence (scored 0) of the item was reported. Items were summed and total scores ranged from 0 to 17.

The Center for Epidemiological Studies Depression Scale¹⁴ was used. It is a standardized, 20-item measure and includes psychological (eg, feeling sad) and behavioral (eg, crying) aspects of depression. Women reported the frequency of each symptom during the past week using a 4-point scale (0 = rarely or none of the time to 3 = most or all of the time). Items were summed and scores ranged from 0 to 60, with a score of 16 or higher indicating a clinically significant

level of depressive symptoms.¹⁴ In a sample of newly diagnosed breast cancer patients the mean Center for Epidemiological Studies Depression Scale score was 11.¹⁵ Means for healthy samples of adult women have ranged from 7 to 8.^{15,16} For the present sample, mean Center for Epidemiological Studies Depression Scale score was 15 and internal consistency reliability (coefficient α) was .90.

The Beck Anxiety Inventory¹⁷ was used. It is a standardized, 21-item measure assessing the presence and severity of common symptoms of anxiety, both psychological (eg, feeling nervous, scared) and physical (eg, heart pounding, hands trembling). A 4-point scale (0 = absent/not at all disturbing to 3 = I could barely stand it) was used; items were summed and total scores ranged from 0 to 63. Scores of 0 to 7 indicated no anxiety, 8 to 15 mild anxiety, 16 to 25 moderate anxiety, and scores 26 or higher, severe anxiety.¹⁷ Reported mean Beck Anxiety Inventory scores for psychiatric outpatients with *Diagnostic and Statistical Manual of Mental Disorders, Revised Third Edition* diagnoses of anxiety disorders range from 17 to 29.¹⁸ Means for community samples have ranged from 7 to 11.^{19,20} For the present sample, mean Beck Anxiety Inventory score was 12, and internal consistency reliability was .88.

Descriptive analyses characterized the sample and included sociodemographic, symptom, and anxiety and depression variables. Follow-up analyses compared the cancer and benign disease groups on these dimensions. Chi-squared and Fisher exact tests were used for categorical variables. One-way (group: benign versus cancer) analyses of variance (ANOVA) were used for continuous variables. For tests of group differences on the outcome variables (depressive and anxiety symptoms), which are measured using ordinal scales, Kruskal–Wallis nonparametric ANOVA was used. The Kruskal–Wallis test is designed to determine whether multiple independent samples are from the same population by using their medians as the test statistic (for a description of this method, see the Siegel and Castellan²¹). If there were no significant differences between the cancer and benign groups, they were collapsed for further analyses.

The primary analyses tested the relative contribution of sociodemographic and gynecology symptom variables as correlates of higher levels of depressive and/or anxiety symptoms among women undergoing a gynecologic oncology consultation. First, correlations among sociodemographic, symptom, depression, and anxiety variables were calculated. Point-biserial correlations were calculated for all dichotomous variables (see Hinkle et al²² for a description of this method). Second, variables significantly correlated with an outcome, that is, depressive or anxiety symptoms, were selected for inclusion in the analysis for that outcome. Third, hierarchical multiple regression models were used to test correlates of emotional distress.

Hierarchical multiple regression is a correlational method in which multiple variables can be used to predict scores on a criterion variable. In the present case, sociodemographic and disease variables were used to predict scores on criterion measures of depressive and anxiety symptoms. Results of hierarchical multiple regression analysis indicate the proportion of variance in the criterion variable that is accounted for by the predictor variables selected for inclusion in the model (for more information see²³). Two sets of hierarchical multiple regression models were used, 1 for depressive and the other for anxiety symptoms. Each predictor variable was entered into the model individually, providing an estimate of its own contribution to the outcome. All statistical analyses were conducted by using Statistical Package for the Social Sciences (SPSS, Inc, Chicago, IL).

Results

Participants (N = 151) ranged in age from 23 to 79 years, with an average age of 49 years (standard deviation [SD] 13.80). The majority (71%) had a spouse or live-in romantic partner.

The sample was predominately white (93%). Years of education ranged from 8 to 20, with a mean of 13 years (SD 2.53). Half of the sample (52%) was employed full or part time. The distribution of annual income for the sample was less than \$15,000, 12%; \$15,000 to \$29,000, 13%; \$30,000 to \$49,000, 20%; \$50,000 to \$79,000, 13%; and more than \$79,000, 17%, with an overall mean of \$51,701 (SD \$37,279; range \$1,000 to \$250,000).

From the sample, 73 women (48%) were eventually diagnosed with gynecologic cancer. Disease sites were cervix (n = 25, 24%), endometrium (n = 34, 47%), ovary (n = 12, 16%), and vulva (n = 2, 3%). Across disease sites, there were 45 (62%) stage I, 9 (12%) stage II, 17 (23%) stage III, and 2 (3%) stage IV cases. The remaining patients (n = 78, 52%) had benign disease, consisting of cases with cysts or fibroids (n = 19, 34%); nonmalignant pelvic masses (n = 13, 17%); dysplasia, hyperplasia, or metaplasia (n = 10, 13%); endometriosis (n = 8, 10%); leiomyoma (n = 6, 8%); squamous intraepithelial lesions (n = 6, 8%); or other gynecologic conditions (n = 16, 20%).

Analyses compared the cancer (n = 73) and benign (n = 78) diagnostic groups on sociodemographic dimensions. (See Table 1 for summary data.) There were no significant differences between groups regarding marital or partner status, racial group representation, years of education, or annual household income. However, women with gynecologic cancer were significantly older than women with benign disease (52 versus 45 years; $P < .01$). The groups also were dissimilar on variables correlated with age. The women who later received a cancer diagnosis were more likely to be postmenopausal ($P = .03$), less likely to be employed ($P < .01$), and when employed, they worked fewer hours per week (32 versus 38 hours; $P = .05$). Consistent with their age, partnered women diagnosed with cancer had been in their relationships for longer periods of time (28 versus 19 years; $P < .01$).

Women presented to the clinic with an average of 3.71 signs and symptoms (SD 2.56, range 1–11; see Table 2). The benign and cancer groups did not differ on the total number of signs and symptoms (3.81 versus 3.40; $P = .63$), with the most common ones being vaginal bleeding (44%) and pelvic pain (43%). The groups were dissimilar for some symptoms, but the differences were not significant ($.05 < P < .10$). Descriptively, more women with cancer reported vaginal bleeding (66%) than did women with benign disease (24%). In contrast, more women with benign disease were found to have a pelvic mass (44%) and reported pelvic pain (54%) and pain with intercourse (23%) than the women with cancer (22%, 32%, and 11%, respectively).

Kruskal-Wallis one-way ANOVA compared the groups on reports of depressive and anxiety symptoms. Analyses revealed no significant differences between groups on either variable (see Table 3). The median Center for Epidemiological Studies Depression Scale score for the sample was 12, 4 points below the cutoff of 16, which indicates clinically significant depressive symptoms. Forty-two percent (n = 64) of the group, however, met or exceeded the cutoff score. This consisted of 40% of the cancer sample and 45% of the benign. Regarding anxiety symptoms, the median score for the group was 10, suggesting a mild level of symptomatology. For the sample, 36% (n = 55) of patients scored in the not anxious range, 34% (n = 52) in the mild range, 23% (n = 34) in the moderate range, and 7% (n = 10) in the severe range. Considering the groups, 29% (n = 21) of the cancer and 30% (n = 23) of the benign patients reported moderate-to-severe levels of anxiety. As there were no significant differences between the groups in the magnitude of depressive or anxiety symptoms, the groups are collapsed for the regression analyses below.

Correlations between depressive symptoms and predictor variables were examined (see Table 4). Three variables (age, living with spouse/partner, and signs/symptoms) were significantly correlated with depressive symptoms and, therefore, entered into the regression equation. The

model was significant ($P < .001$) and explained 12% of the total variance in depressive symptoms. Specifically, number of signs/symptoms explained approximately 7% of the variance in Center for Epidemiological Studies Depression Scale scores, with increasing signs/symptoms being related to greater depressive symptoms ($P = .001$). As the number of years living with a spouse/partner also was significantly correlated with depressive symptoms, we conducted a follow-up regression including only patients with partners ($n = 104$). The 3 variables entered into this model were age, number of years with spouse/partner, and signs/symptoms. The model was significant ($P = .001$) and accounted for 16% of the total variance in depressive symptoms. Among partnered women, signs/symptoms again accounted for significant variance (6%) in Center for Epidemiological Studies Depression Scale scores ($P = .01$). However, the number of years partnered also accounted for significant variance (7%), with lengthier relationships being related to fewer depressive symptoms ($P = .01$).

Correlations between anxiety symptoms and predictors were examined (see Table 4). Two variables (living with spouse/partner and signs/symptoms) significantly correlated with anxiety symptoms and were entered into the anxiety regression model. The model was significant ($P < .001$) and accounted for 11% of the total variance in anxiety symptoms. Signs/symptoms significantly accounted for 8% of the variance in Beck Anxiety Inventory scores, with increasing signs/symptoms associated with greater anxiety symptoms ($P < .001$). As with depressive symptoms, a follow-up regression was conducted that included only patients with partners. The variables included in this second regression were number of years with spouse/partner and signs/symptoms. Again, the model was significant ($P < .001$) and accounted for 13% of the total variance in anxiety symptoms. A similar pattern to Center for Epidemiological Studies Depression Scale scores was found, with both years with spouse/partner and signs/symptoms accounting for significance variance in Beck Anxiety Inventory scores, 6% and 7%, respectively. Thus, increased anxiety symptoms among partnered women were associated with both increased signs/symptoms ($P < .01$) and fewer years with a partner ($P = .03$).

Discussion

The data describe the severity of depressive and anxiety symptoms among women who were referred to a gynecologic oncologist for evaluation. In a circumstance rare in the psychosocial literature, data were obtained during the initial visit, when both patients and physicians were unaware of the significance of the disease presentation. Not surprising, the visit was distressing; but more important is the level of distress found among patients. Forty-two percent had clinically significant depressive symptoms and 30% had moderate-to-severe anxiety symptoms.

Although levels of distress were high for these oncology consultation patients, distress among women receiving general care in gynecology clinics is also common.^{24–26} Moreover, cases of clinical depression or generalized anxiety disorder may not be recognized.²⁴ Identifying distressed patients is an important step for comprehensive psychosocial care. Particularly for those with the highest levels of distress, identification enables triage to support services or psychological consultation. Recent recommendations from the U.S. Preventive Services Task Force²⁷ indicate that screening should be conducted in clinical practices that have systems in place to diagnose, treat, and follow patients with depression. Research suggests that obstetrician–gynecologists most likely to conduct screening are those reporting more positive attitudes toward it as well as those with adequate training to do so.²⁸

The measures in this study estimated the extent of emotional distress. The results of this study suggest that brief, self-report measures might be useful in identifying women at risk of anxiety, depression, or both. The study measures were completed and scored in 10 to 15 minutes. These particular ones, the Center for Epidemiological Studies Depression Scale for depressive

symptoms and the Beck Anxiety Inventory for anxiety symptoms, were optimal because they are reliable, valid, standardized, and brief and have convergent validity with structured clinical interviews using psychiatric criteria.^{17,29} In future research, it would be important to follow up patients having higher distress to determine if they actually meet criteria for psychiatric diagnoses, such as Adjustment Disorder or Generalized Anxiety Disorder.³⁰

Although some patients will be candidates for referral, the majority will not. Even so, the distress for the remaining patients is substantial. Because mild-to-moderate levels of distress are common for patients, clinics could consider brief, educational efforts to assist all patients. For example, McQuellen et al³¹ developed a brief (15-minute) orientation for patients new to a medical oncology clinic. Not only were there significant reductions in anxiety and depressive symptoms (by using the same measures described here), but patients also had significantly greater confidence in their physician and satisfaction with their care. Another strategy might be to provide written materials, such as a pamphlet or short video, as information alone can achieve considerable reductions in stress.³² Such efforts would reduce stress and, perhaps, enhance a patient's adherence to medical treatment and follow-up once the diagnosis is learned. Stewart and colleagues³³ offered a brief psychoeducational brochure to women receiving abnormal Pap test results and referral for biopsy. Women who received the brochure were significantly less distressed, and more of them, 75%, returned for biopsy in contrast to only 46% for women who did not receive the brochure. We suggest the consideration of brief interventions, because even when physicians recognize and wish to treat depression and related conditions, their time to do so is limited.²⁸

Another goal of the study was to test the relative contribution of gynecology symptoms and sociodemographic variables as correlates of higher levels of depressive and anxiety symptoms. Indeed, patient characteristics are related to greater risk for distress. The most important patient characteristic correlated with distress was the extent of gynecologic symptomatology. Although the measure was crude, it proved the well-documented relationship between symptoms and emotional distress.^{10,13} It also demonstrated reasonable validity when documenting familiar, but distinct, patterns of symptomatology between the benign and cancer groups.

In addition to disease symptomatology, results also suggest that an older age (eg, postmenopausal) and the absence of spouse/partner may confer added risk for distressed patients. The importance of the close relationship emerges again when analyses were restricted to women with partners only. As expected, the extent of gynecologic symptoms contributes significantly, but the duration of the relationship was also contributory. Data suggest that relationships of longer duration have a protective effect, with women reporting fewer symptoms of depression and anxiety. Although correlations such as these require replication and extension with a longitudinal research design, they are consistent with data from epidemiologic literatures. Social support, as defined by the presence of a spouse and/or other personal relationships, appears to exert a positive effect on health, including one's mortality.^{34,35}

In summary, this group of women presenting for initial gynecologic oncology consult had relatively high levels of depressive and anxiety symptoms. The magnitude of presenting gynecologic symptoms was a reliable correlate of emotional distress, and the strategy used here to quantify symptoms was simple to administer and brief. In addition, "older women" (eg, postmenopausal age) and those without a partner reported higher levels of distress as well. When selecting measures to predict poor outcomes, the Center for Epidemiological Studies Depression Scale and Beck Anxiety Inventory should be considered because they are validated and easy to administer. Because the prevalence of clinically significant depressive and/or anxiety symptoms among consultation patients might be relatively high, gynecologic

oncologists and other clinicians might consider screening for psychosocial distress and triage of intervention based on the level of distress.

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Table 1
Sociodemographic Characteristics for Total Group and Benign and Cancer Subjects

	Total group (N = 151)	Benign (n = 78)	Cancer (n = 73)	<i>P</i>
Age (y)	49 (14)	45 (13) *	52 (14) *	.001
Race (% white)	93	91	96	.230
Married (%)	64	58	72	.083
Living with spouse/partner (%)	71	64	78	.059
Years with spouse/partner	22 (15)	18 (13) *	26 (17) *	.002
Education (y)	13 (3)	14 (3)	13 (3)	.411
Employed (%)	52	63 *	41 *	.008
Hours worked per wk	36 (15)	38 (14) *	32 (16) *	.050
Annual family income (\$1,000)	52 (37)	53 (41)	50 (34)	.672

Values in parentheses are standard deviations. *P* values for tests of group differences are provided.

* *P* < .05.

Table 2

Frequency of Gynecologic Signs and Symptoms

	Percentage with sign or symptom reported			<i>P</i>
	Total group (N = 151)	Benign (n = 78)	Cancer (n = 73)	
Vaginal bleeding	44	24 [*]	66 [*]	< .001
Pelvic pain	43	54 [*]	32 [*]	.006
Abdominal pain	35	39	32	.371
Abdominal distention/bloating	34	32	36	.643
Abnormal Pap test results	33	27	40	.095
Pelvic mass	33	44 [*]	22 [*]	.005
Gastrointestinal	29	31	26	.519
Back pain	26	30	22	.311
Pain with intercourse	17	23 [*]	11 [*]	.037
Vaginal discharge	15	12	19	.192
Leg swelling/pain	14	12	16	.385
Ascites	9	13	6	.120
Vulvar pruritus	7	8	6	.585
Vulvar pain	6	8	4	.353
Vulvar mass	3	3	4	.596
Vulvar bleeding	3	3	3	.946
Other	20	22	18	.540

P values for tests of group differences are provided.

* *P* < .05.

Table 3

Median and Percentile Scores for Depressive and Anxiety Symptoms

	Total group (N = 151)	Benign (n = 78)	Cancer (n = 73)	<i>P</i>
Center for Epidemiological Studies Depression Scale Scores				
25th percentile	7	8	7	.933
50th percentile (median)	12	13	12	
75th percentile	21	20	21	
Beck Anxiety Inventory Scores				
25th percentile	5	5	5	.698
50th percentile (median)	10	9	10	
75th percentile	17	19	17	

P values for Kruskal–Wallis tests of group differences are provided.

Table 4
Correlations Between Sociodemographic, Symptom, and Emotional Distress Variables

	1	2	3	4	5	6	7	8	9	10
Sociodemographics										
1 Age (y)	...									
2 Menopausal status (pre-/peri- vs postmenopausal)	0.741*	...								
3 Living with spouse/partner (yes vs no)	0.052	0.028	...							
4 Years with spouse/partner	0.756*	0.598*	0.127	...						
5 Education (y)	-0.179*	-0.176*	0.054	-0.125	...					
6 Employed (no vs yes)	-0.341*	-0.214*	-0.087	-0.197*	0.265*	...				
7 Hours worked/wk	-0.222*	-0.115	0.071	-0.022	0.233*	0.288*	...			
8 Annual family income (\$)	-0.027	-0.133	0.336*	0.027	0.478*	0.246*	0.172	...		
Disease										
9 Signs and symptoms (number)	-0.123	-0.058	-0.067	-0.171	-0.037	-0.119	0.123	-0.108	...	
Emotional distress										
10 Center for Epidemiological Studies Depression Scale	-0.178*	-0.027	-0.161*	-0.305*	-0.005	-0.071	0.081	-0.044	0.285*	...
11 Beck Anxiety Inventory	-0.133	-0.080	-0.168*	-0.248*	-0.071	-0.017	0.060	-0.023	0.295*	0.799*

Coding for dichotomous variables was as follows: menopausal status (0 = pre-/perimenopausal, 1 = postmenopausal); living with partner (0 = no, 1 = yes); employed (0 = no, 1 = yes).

* $P < .05$ (2-tailed).