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CASE REPORT

Brain cancer and sexual health: A case report

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ABSTRACT

Objective: Cancer patients often encounter sexual concerns during the diagnosing, treatment, and recovery phase of their illness. However, the sexual concerns of these patients are often overlooked. Brain cancer patients are no exception to this oversight.

Methods: A case report of a 39-year-old patient with a history of high-grade anaplastic astrocytoma presented to the Sexual Health Program at the Memorial Sloan-Kettering Cancer Center complaining of vaginal discharge and several months of amenorrhea. Although the patient was administered extensive aggressive antineoplastic treatments, her disease rapidly progressed.

Results: Despite the patient's terminal illness she continued to have normal sexual thoughts, feelings, and desires; however, she had difficulty discussing these issues with her partner and caregiver, who was her mother. An examination by the sexual medicine gynecologist noted no clinical signs of genital infections; however, there was minimal vaginal atrophy. Her sexual health laboratory evaluation was extensively abnormal. Her treatment consisted of intravaginal non-hormonal moisturizers and vaginal lubricants, counseling, and sexual education. The patient successfully engaged in sexual contact with her partner by the third counseling session.

Significance of Results: Almost all oncology patients have sexual concerns during or following cancer treatment. These patients should be referred to comprehensive sexual health programs for treatment, if available.

KEYWORDS: Brain cancer, Sexuality, Sexual function

INTRODUCTION

Sexual health in brain cancer patients has not been extensively researched or reported on in the medical literature. Neurological literature concerning sexual outcomes has primarily focused on sexual behavior after surgery for epilepsy. In a review, Baird et al. (2003) reported that right-sided temporal lobe resections caused more significant and more frequent changes in women than men. Temporal lobe resections have led to postoperative changes in sexual functioning from abolishing preexisting paraphilias (Mitchel et al., 1954; Hunter et al., 1963) and impotence in men (Blumer & Walker, 1967) to restoring normal sexual function and even causing hypersexuality (Hunter et al., 1963; Baird et al., 2002) or excessive self-stimulation (Baird et al., 2003; Ozmen et al., 2004). The Kluver–Bucy syndrome, characterized by visual agnosia, hyperorality, irresistible impulses to react and attend to visual stimuli, dietary and emotional changes, and hypersexuality, can be seen in humans after bilat-

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eral temporal lobectomy (Marlowe et al., 1975). No specific studies have examined brain resections for cancer therapy and their affect on sexual function.

We present a case report that underscores the importance of comprehensive care, including sexual health evaluation and treatment, for all oncology patients. The need for human intimacy and physical closeness is not lost in severe disease states or as the end of life approaches; however, it is a subject that is often neglected by health care providers who focus on pain control and maintaining physical comfort. For some patients, intimacy becomes a higher priority under these circumstances. Patients should be encouraged to remain physically close, caress and touch, and continue to experience human connectedness until death.

CASE STUDY

A 39-year-old woman, with a history of right frontoparietal glioblastoma multiforme that was diagnosed in 2002, initially presented to the Sexual Health Program at the Memorial Sloan-Kettering Cancer Center (MSKCC) complaining of vaginal discharge and several months of amenorrhea. She reported a lack of menopausal symptoms, such as hot flashes and vaginal dryness. She told the examiner that she had sexual thoughts, feelings, and desires, however had difficulty discussing these issues with her partner and her mother, who was her caregiver. The patient's mother had recently moved in with her, and this living arrangement compromised the patient's intimacy and time alone with her long-standing partner.

Her oncological history consisted of multiple brain resections and focal radiation therapy. Her course was complicated by the development of a subdural hematoma, which was drained, but which later reaccumulated. A cerebral infection developed, which required bone plate debridement and removal. This procedure was followed by two cycles of BCNU (Carmustine) that was well tolerated. She also received temazepam and isotretinoin for tumor progression. She had endured a total of six brain surgeries. Most recently, she began Polycillin shots with interferon three times a week. Her cancer history was also complicated with intermittent generalized tonic-clonic seizures and a left, lower-extremity deep venous thrombosis. She had persistent hemiparesis, and her last MRI scan revealed progression of disease. At presentation to the Sexual Health Program her medications included carbamazepine, phenytoin, escitaloprain oxalate, omeprazole, risperidone, folate, dexamethasone, ranitidine, warfarin, low-molecular-weight heparin, and alprazolam.

Past medical history included a history of anxiety, panic disorder, and depression. She witnessed the events of 9/11 and subsequently suffered from posttraumatic stress disorder (PTSD). She was previously employed as a professional but went on disability because of her worsening medical condition.

On physical examination by the sexual medicine gynecologist, the patient had prominent scarring of her scalp and limited mobility on her left side. On pelvic examination there was no clinical sign of genital infections. Minimal vaginal atrophy was noted with adequate vaginal length and caliper. After overnight fasting, sexual health blood laboratory values were abnormal: she had elevated prolactin, cholesterol panel, thyroid stimulating hormone, and low levels of estrogens and androgen (see Table 1).

Upon further psychosexual evaluation it was discovered that the patient had a long-term supportive partner with whom she enjoyed intimacy and sexual contact. Recently, she had concerns regarding the lack of private intimate time because she was now living with her mother, who was necessary as a caregiver. The patient enjoyed strong sexual desire and arousal, with continued ability to achieve orgasm. She engaged in and enjoyed self-stimulation, with good response and orgasm, but missed the intimate contact with her partner. She was aware of the terminal nature of her disease and desired physical intimacy with her partner.

Table 1. *Sexual health laboratory profile*

Lab	Result	Normal
CBC	Hgb 11.2 Hct 37.4 Platelets 204	
Lipids Total	307	<200
LDL	168	<100
HDL	99	>60
Trigl	202	50–160
TSH	6.26	0.37–4.42 mc Units/ml
Prolactin	60.1	3–25 ng/ml
DHEAS	<10	76–255 mcg/dl
Total testosterone	<10	0–80 ng/dl
Free testosterone %	undetectable	0.4–2.4%
Amount	undetectable	0.6–6.8 pg/ml
Estrone	<10	
Estradiol	<10	[a]
LH	12	[b]
FSH	6.3	[c]
SHBG	21	30–95 nM/L

[a]Follicular, 26–158; Midcycle, 69–364; Luteal 51–219; Menopausal, 0–47.
[b]Follicular, 5–15; Midcycle, 30–120; Luteal, 5–15; Menopausal >13.
[c]Follicular, 2–10; Midcycle, 7–20; Luteal, 2–20; Menopausal >16.

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Treatment for her mild vaginal atrophy consisted of intravaginal non-hormonal moisturizers (Replens® and Vitamin E suppositories), which she used three times weekly. Vaginal lubricants (Astroglide®, KY jelly® and EROS Women®) were advised during sexual intercourse. The patient was taught alternative positions for sexual intercourse that aid patients who become fatigued and have limited range of mobility. The careful placements of pillows were encouraged to facilitate body support and comfort. She was counseled on different forms of sexual expression, including non-genital touching, mutual massage, and oral–genital and manual stimulation. In addition, the patient was also given educational material, including the American Cancer Association's *Sexuality and Cancer* booklet, and information concerning communication techniques. These communication techniques helped the patient initiate frank, open sexual discussions with her mother.

After several counseling sessions, the patient discussed her sexual concerns with her mother. She was able to express her need for private time and intimacy with her partner despite her current medical condition. The patient successfully engaged in sexual contact with her partner by the third counseling session.

DISCUSSION

Cancer patients often encounter sexual concerns during the diagnosing, treatment, and recovery phase of their illness. Studies have shown that sexual dysfunction is highly prevalent in the cancer patient population at large. Sexual concerns are often neglected in patients who suffer from brain cancer. Even in the face of severe, chronic, debilitating progressive disease, sexual functioning may be critical for establishing some sense of normalcy. This patient presented with multiple potential causes for female sexual impairment—physiologic (brain tissue resection, radiation, and chemotherapy), pharmacologic (medications that have been documented to impact female sexual function), endocrinopathic (hypoestrogenism, hypoandrogenism, and hyperprolactemia), chronic medical illness (epilepsy, seizures, hyperlipidemia), psychiatric (anxiety, depression, PTSD), and neurologic (limited mobility, hemiparesis). However, she had no loss of libido or sexual function. The cancer research community continues to improve therapeutic modalities by developing innovative medical, surgical, and adjunctive techniques that improve survival but can limit the impact on sexual functioning. Cancer patients can now focus on survivorship and quality of life, with expectations of high functioning and a positive sense of self. Sexual health, intimacy, and a sense of human connectedness are critical components of normal human interactions. This patient, despite significant medical, hormonal, and physical illness, expressed strong desire to maintain healthy sexual functioning.

Although sexual response and functioning may be closely linked to hormonal levels and anatomical integrity, this case typifies the complexity of female sexual function and supports the concept that sexuality is neither purely a medical nor a hormonal phenomenon. There is a strong psychological component in human sexual contact and connectedness. The female sexual response cycle is not a mere functioning of hormones, veins, arteries, and nerves but a dynamic and highly complex interplay between anatomy and psychosexual needs.

The patient benefited from education, encouragement, and supportive therapy. Health care professionals should receive formalized sexual health education, which can sensitize them to sexual concerns. The primary oncology team may often neglect the sexual health concerns of their patients. Sexual issues and problems are paramount to cancer patients and directly affect quality of life. Many critically ill cancer patients still desire sexual intimacy, despite worsening disease, and would welcome a candid discussion on sexuality with a health care professional.

Although intercourse may not be technically feasible for many patients, the need for close human intimacy is not lessened when end of life approaches. Patients should be encouraged to remain physically close, caress and touch, and continue to experience human connectedness until death. End-of-life intimacy and sexual feelings are not typically researched scientifically. This is also an area that can be neglected in the palliative care of the critically ill patient. Further study would enable a greater understanding of this important facet of quality of life in patients who are critically ill and are facing the end of life.

Patients with sexual complaints during or following cancer treatment should be discussed by the oncology team or should be referred to comprehensive sexual health programs for treatment, if available. MSKCC has designed such a program for cancer patients. The Sexual Health Program at MSKCC is a multidisciplinary program that consists of a comprehensive medical examination by a board-certified gynecologist in addition to a psychosexual evaluation and a sexual functioning assessment by a psychologist with certification as a sexual therapist.

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