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Perceptions and practices regarding women's vaginal health following radiation therapy: a survey of radiation oncologists practicing in the United States

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Abstract

Purpose: Vaginal stenosis (VS) is a recognized complication of pelvic and vaginal radiation therapy (RT).

Methods and materials: A 26-item survey assessing the signs/symptoms, risk factors, diagnosis, prevention, treatment, and impact of VS on women's sexual health was distributed to radiation oncologists. Descriptive statistics were calculated. Chi-square tests examined differences in categorical responses.

Results: A total of 233 (10.5%) participants completed the entire survey. Twelve percent, 21%, and 68% report treating gynecologic (GYN) tumors only, non-GYN pelvic tumors only, or both, respectively. Regarding risk factors, 78% believed that VS can be caused by pelvic RT alone, 91% by vaginal brachytherapy alone, and 98% by combined pelvic RT and vaginal brachytherapy. Approximately one-half of respondents felt that being postmenopausal and having a hysterectomy before radiation therapy were risk factors for VS, whereas the other half felt that these were not risk factors. All respondents agreed that VS is a clinical diagnosis. Respondents indicated that VS symptoms include dyspareunia, vaginal pain, dryness, and/or bleeding (100%, 90%, 85%, and 72%, respectively); 65% indicated all 4. The most commonly recommended treatment for VS is vaginal dilator use. Radiation oncologists who treat GYN-only versus non-GYN cancers were more likely to perform a vaginal examination, to distribute written instructions regarding vaginal dilator use ($P = .002$), to have vaginal bleeding reported after RT ($P = .001$), and to refer patients to

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a sexual counselor (P = .007). Most providers (73%) expressed willingness to participate in prospective research on the diagnosis and treatment of VS.
Conclusions: This is the first large-scale survey of radiation oncologists' perceptions and practices regarding VS. There is agreement among providers regarding the signs/symptoms of VS and strategies for its prevention/treatment using vaginal dilators. Further prospective and observational research is needed. This survey shows a willingness on the part of providers to take part in prospective research regarding the diagnosis, impact, and treatment of VS on women's sexual health.

Background

Pelvic radiation therapy (RT) is an important part of the curative management of many pelvic malignancies. In women, this can result in high doses of RT being delivered to all or a portion of the vaginal canal because it is part of the clinical target volume or will be included in the planning target volume because of its close proximity to the clinical target volume. Depending on the treatment modality and RT dose necessary to treat/cure the cancer in question, vaginal RT doses may vary widely.

Vaginal stenosis (VS), commonly defined as shortening and/or narrowing of the vaginal canal, is a widely accepted consequence of pelvic RT.[1] The biological mechanism of VS is not well understood. The tissue injury seems to be subacute (weeks to months after treatment) because injury is most commonly seen during this time after treatment is completed. As such, interventions to mitigate RT-induced damage to the vaginal mucosa are often recommended in this same time window. In addition to the physical changes of the vaginal canal after RT, women may experience dyspareunia (ie, pain with vaginal intercourse), sexual dysfunction, and psychological effects associated with VS.[2]

Diagnosis of VS is difficult because there are several measurement methods, all of which use subjective assessment by the provider, including Late Effects Normal Tissue Task Force (LENT)-Subjective, Objective, Management, Analytic scales and the Common Terminology Criteria for Adverse Events (CTCAE), which assign toxicity scores based on qualitative assessment rather than quantitative measures.[3] Patient-reported outcomes regarding the consequence of VS on quality of life and sexual function may be more important but are rarely reported in the literature. There are currently no objective methods to measure the degree of VS that results after a course of pelvic or vaginal RT. Manual vaginal dilation has been the most common treatment strategy used by radiation oncologists for their female patients. Some countries, such as the United Kingdom, have commonly set and agreed upon guidelines for manual vaginal dilation.[4] Others, such as Australia, have suggested guidelines.[5] In the United States, the Oncology Nursing Society has a similar set of recommendations.[6] To better understand VS perceptions and practices in the United States, we prepared an Internet-based survey of radiation oncologists who treat female pelvic malignancies regarding their perceptions concerning VS, their recommendations on vaginal dilator (VD) use, their practice of assessing/diagnosing VS, and interventions used to treat symptomatic VS. We also assessed whether the survey respondents may be willing to participate in a randomized study assessing the development and consequences of VS with standardized recommendations of VD use.

Methods and materials

Survey instrument

We designed an Internet-based survey with 4 parts:

1. Demographic and practice-related characteristics of the respondent
2. Perceptions regarding the signs and symptoms of VS
3. Opinions regarding patient- and treatment-related characteristics that put patients at risk for developing VS
4. Practices regarding the assessment and treatment of patients with VS

The entire survey is included in Appendix E1 (available as supplementary material online only at www.practivalradonc.org).

Survey procedure

After obtaining institutional review board exemption, the survey was distributed using the Survey Monkey (http://www.surveymonkey.com) Web site to 2200 radiation oncologists in the United States. An initial e-mail invitation was sent explaining the purpose of the survey and offering each recipient an "opt-out" link. Reminders were mailed to anyone who had not already replied at 4 and 6 weeks after the initial mailing was sent. Eight weeks after the survey was initially distributed, the survey was closed and the results were analyzed.

Statistical analysis

The data from the Survey Monkey database were first downloaded into a Microsoft Excel spreadsheet (Microsoft