

Brief Opinion

Educating the Colleagues: Radiation Basics for Obstetrics and Gynecology Residents



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Abstract

Exposure to radiation oncology (RO) is limited among medical students, excluding those who wish to pursue a radiation oncology career. Consequently, RO knowledge in gynecological malignancies may differ among obstetricians and gynecologists (OB&G), depending on their experience and training level. Establishing a program to educate OB&G residents about basic radiation oncology principles may improve patients' coordination and treatment with gynecological malignancies. At our institution, radiation oncology residents conducted a 2-part training session for OB&G colleagues, which included a lecture and hands-on training. Educational sessions targeting OB&G residents are needed to enhance knowledge about radiation treatments and improve patient care.

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Oncology education during medical school is limited.¹ Most schools do not require oncology-oriented clerkships, and radiation oncologists have limited involvement with students during preclinical and clinical years.¹ An analysis from the radiation oncology (RO) education initiative for medical students reports that the program inspired 71% of the participants to seek additional learning opportunities.² A systematic review of physicians' knowledge about radiation dose associated with computed tomography scans revealed low to moderate knowledge about the involved health risks.³ Except for students interested in pursuing an RO career, RO exposure as a medical field is minimal in medical school.

Consequently, knowledge of radiation treatment in gynecologic malignancies can vary among obstetricians and gynecologists (OB&G) depending on their experience and training. Therefore, the addition of a radiation oncology component to the standard OB&G curriculum will likely improve patient care with gynecologic malignancies. This report describes our institutional experience with the development and execution of such an educational experience.

RO residents at our institution met with OB&G residents to recognize gaps in their expertise in RO topics of interest.⁴ With the assistance of RO and gynecologic oncology attending physicians, an education session was designed to cover radiation therapy's fundamentals. Members of the OB&G department, including residents, attending physicians, nurse practitioners, and patient care coordinators, were the session's target audience. The educational session was split into an orientation lecture, followed by hands-on training.

The orientation lecture covered several topics, including common gynecologic malignancies and standard treatments.

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We discussed cervical cancer, uterine cancer, and vulvar cancer. We discussed the standard of care treatment for these malignancies as per the National Comprehensive Cancer Network guidelines. We reviewed the role of adjuvant pelvic radiation or chemoradiation for surgically treated early-stage cervical cancers and definitive chemoradiation and intracavitary and interstitial brachytherapy for advanced cervical cancers. We also discussed the role of adjuvant cylinder brachytherapy or pelvic radiation treatment for uterine cancers and adjuvant or definitive radiation treatment with or without chemotherapy for vulvar cancers. We discussed the indications for radiation therapy, the use of emergent treatment, and descriptions of different modalities, including external beam radiation treatment and brachytherapy. We discussed the treatment simulation, radiation planning software, and the types of treatment machines regarding external beam radiation treatment. The background physics of brachytherapy was discussed, along with magnetic resonance imaging-guided adaptive treatment planning and potential side effects. Radiation safety during pregnancy was also discussed, which included the National Council on Radiation Protection and Measurements recommendation on effective dose limit (0.5 mSv/month) after pregnancy is declared.

As part of the hands-on demonstration, the participants visited the radiation oncology department. They were introduced to the devices used in radiation therapy, including tandem and ovoid or rings, cylinders, interstitial needles, treatment planning software, linear accelerators, and brachytherapy after-loaders. Mannequins were used to simulate brachytherapy, including device placement. This educational training session provided an opportunity to improve the understanding of the basics and logistics of radiation therapy, improve coordination of treatment, and identify potential research and collaboration opportunities.

There have been previous efforts to improve radiation oncology knowledge among specialists and primary care providers.^{5,6} Through the Royal Australian and New Zealand College of Radiologists society's Targeting Cancer public awareness campaign, an education program for primary care physicians was established in 2014.⁵ Of these physicians 95% rated their knowledge in cancer care above competent, and 94% reported the sessions strengthened their ability to care for cancer patients.⁵ This study reports that collaborative, on-site physician education will impact radiation therapy patient referrals by fostering enhanced physician confidence.

In conclusion, educational sessions targeting residents and fellows are needed to enhance knowledge about radiation treatments and improve patient care.

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