

Current

Clinical Solutions

June 2023

It Takes a Village: Supportive Oncodermatology Perspectives From Oncology Nurse Leaders

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Supported by La Roche Posay Laboratoire Dermatologique.

Distributed by

JOURNAL OF DRUGS IN DERMATOLOGY

JDD

Introduction

Supportive oncology dermatology is a subspecialty that provides treatment and preventative care for the cutaneous adverse effects (cAEs) of cancer treatments. By design, supportive oncology dermatology is an interdisciplinary field positioned to minimize patient suffering through collaboration between dermatology and oncology. Evaluation and treatment of cAEs by a dermatologist can facilitate skin-directed therapy and reduce the need for disruption of oncologic management, which can have a significant impact on clinical outcomes. Team-based approaches to oncology dermatology exist in many forms, including referral patterns allowing for expedited access to dermatological care, multidisciplinary oncology dermatology clinics, research, and developing shared practice guidelines.¹ The benefits of successful, collaborative oncology dermatology care have been demonstrated. In one retrospective cohort study of inpatient oncology patients with cAEs, dermatology consultation led to a significant reduction in use of systemic immunosuppression and discontinuation of cancer therapy.² Additionally, patient enrollment in a supportive oncology dermatology clinic has been shown to significantly correlate with improved quality of life.³

Dr. Margaret Barton-Burke PhD RN FAAN and Angela Adames BSN RN OCN joined Dr. Adam Friedman MD FAAD, Professor and Chair of Dermatology and Director of the Supportive Oncology Program at the George Washington University, on *Journal of Drugs in Dermatology's* Ask the Investigator podcast titled "It Takes a Village: Supportive Oncology Perspectives from Oncology Nurse Leaders" for a conversation about how to enrich and deepen collaboration within oncology dermatology. Dr. Barton-Burke is the Director of Nursing Research at Memorial Sloan Kettering Cancer Center (MSKCC) in New York City. Ms. Adames is a clinical and office practice nurse in the Department of Radiation Oncology at MSKCC. In this episode, Dr. Barton-Burke and Ms. Adames share radiation dermatitis management pearls and provide an invaluable nursing perspective on evolving research in oncology dermatology, current challenges, and effective strategies for creating multidisciplinary teams. This episode is the conclusion of a 3-part oncology dermatology podcast series, available online through the *Journal of Drugs in Dermatology*.

Radiation Dermatitis

Radiation therapy is in the therapeutic armamentarium for many cancers, and radiation-related cAEs are common, impacting up to 95% of patients undergoing treatment.^{4,5} For Ms. Adames and Dr. Friedman, the initial approach for patients planning to begin radiation therapy involves education about potential cAEs and preventative skin care. Beginning with basic hygiene practices, Ms. Adames recommends patients wash with mild soap and lukewarm water while undergoing treatment. Two randomized trials of patients undergoing breast radiation who washed with mild soap and water confirmed no harm to washing irradiated areas, and data even suggests that patients who washed the areas had decreased pain, itching, erythema, and decreased likelihood of desquamation compared to patients who did not.^{6,7} Patients should also liberally and frequently apply moisturizers during treatment; in general, a moisturizer appropriate for sensitive skin (hypoallergenic and without fragrances) can be safely recommended. Ms. Adames also allows the use of deodorant; per a recent systematic review and meta-analysis, both deodorants and aluminum-containing antiperspirants do not increase the incidence or severity of radiation dermatitis and there is no evidence suggesting a benefit to withholding them.⁸

Lastly, patients can wear loose fitting clothing, particularly when experiencing skin irritation or discomfort.

Approximately 1 to 2 weeks prior to beginning radiation treatments, Ms. Adames and Dr. Friedman recommend that patients begin prophylactic application of a topical corticosteroid cream (TCS). Research supports a favorable effect of TCS use in this context, which may reduce the maximum toxicity or likelihood of developing severe radiation dermatitis.⁹ Prophylactic application of TCS can continue throughout the radiation therapy course, ensuring periodic breaks to limit risk of local side effects from chronic TCS use. The Multinational Association of Supportive Care in Cancer (MASCC) clinical practice guidelines for the prevention and management of acute radiation dermatitis recommend mometasone and betamethasone; other TCS are utilized but lack a consensus recommendation.¹⁰

Acute radiation dermatitis can begin within days to weeks after the first cycle of radiation therapy (Figure 1).⁴ The spectrum of radiation-induced skin toxicity severity is often conceptualized using a standardized grading system (Table 1).

Figure 1. Radiation dermatitis images.



Credit: *The Full Spectrum of Dermatology: A Diverse and Inclusive Atlas*.

Table 1. National Cancer Institute Common Terminology Criteria for Adverse Events (CTCAE) Grading Scale for Radiation Dermatitis

Grade	
0	No symptoms/no change from baseline
1	Faint erythema or dry desquamation
2	Moderate to brisk erythema, patchy moist desquamation, mostly confined to skin folds and creases, moderate edema
3	Moist desquamation other than skin folds and creases, bleeding induced by minor trauma or abrasion
4	Life-threatening consequences, skin necrosis or ulceration of full thickness dermis, spontaneous bleeding from involved site, skin graft indicated
5	Death

Acute skin changes may first manifest as transient erythema in the first 24 hours after radiation treatment initiation. During the subsequent weeks of treatment, dry desquamation may develop, which clinically manifests as pruritis, scaling, and flaking of dry skin.⁴ Moist desquamation, a more severe reaction typically seen at higher radiation doses, is extremely painful due to destruction and loss of epidermal layers, edema, and drainage.⁴ Patients with moist desquamation have increased susceptibility

to injury and infection, and in some cases, radiation must be held until the skin re-epithelializes. The most severe cAEs may have ulceration, hemorrhage, or necrosis of skin tissue, and can be life-threatening. Patients in active radiation treatment should be regularly monitored for cAEs and have access to rapid dermatologic care if cAEs develop. At MSKCC where Ms. Adames practices, patients receiving radiation therapy are seen in the radiation oncology clinic at least weekly for skin assessments to monitor for cAEs.

Approaches to radiation dermatitis management are heterogeneous, as there are currently no standardized management guidelines. Ms. Adames reported that patients who develop mild radiation dermatitis (below Grade 2 per CTCAE criteria) can typically be monitored and treated with TCS as long as their skin remains intact. Additional symptoms such as discomfort or swelling can be managed supportively with analgesics depending on severity. However, management strategies differ once patients develop moist desquamation or more severe reactions. Among 52 interventions considered in recent MASCC international Delphi consensus-based recommendations, only 1 achieved consensus to be recommended (silicone-based polyurethane, or Mepitel film).¹⁰ Dr. Barton-Burke emphasized that the lack of high-quality evidence to guide clinical practice makes appropriate counseling and treatment of patients with more severe reactions challenging. While cAEs may be treated symptomatically, the approach to treatment may not necessarily be founded in a strong body of evidence.

Research

One of the major takeaways from this podcast was the importance of moving towards evidence-based management of oncodermatology patients, which will require additional high-quality research on prevention and management strategies. The current data is limited and includes conflicting findings regarding the clinical value of therapies.¹⁰ Nurses and physicians should be working together to build a substantive body of evidence about radiation oncology and oncodermatology.

Thankfully, there is continually growing interest in supportive oncodermatology in recent years, and with this, there has been an increase in related research. Dr. Barton-Burke and Ms. Adames highlighted some promising examples of collaborative research occurring at MSKCC. For example, the MSKCC radiation oncology department is currently trialing new treatment and symptom management protocols, including use of Mepitel, a product currently recommended in the MASCC clinical practice guidelines.¹⁰ Mepitel, or silicone-based polyurethane, is a transparent, semiporous dressing comprised of a flexible polyamide net coated with silicone so that it can be easily removed without damaging the skin.¹¹ This dressing can be used effectively for up to 14 days per the manufacturer, as the pores allow passage of exudates into secondary absorbent dressings that can be changed without removing the Mepitel. In a randomized clinical trial of children with partial-thickness burns, wounds treated with Mepitel healed significantly faster than wounds treated with silver sulfadiazine, and patients using Mepitel experienced less pain at dressing change when compared to those using silver sulfadiazine.¹² In Ms. Adames' and Dr. Barton-Burke's department, Mepitel is currently only being utilized for high-risk patients; expansion to other patients will be dependent on factors yet to be considered in the trial, including cost-effectiveness. Dr. Friedman reiterated the

importance of considering cost and feasibility when formulating clinical trials. In many clinical trial programs, a lack of focus on cost and feasibility of access can limit the generalizability and practicality of translating trial results to a broader population.

Addressing Online Content With Patients

Given the plethora of information available online, patients often turn to internet and social media sites for medical advice. There is value in finding community and sharing one's experience online; however, many internet sources are not validated and do not contain evidence-based recommendations. For Dr. Barton-Burke, the most frequent social media myths she has debunked with her patients include notions that deodorant should not be used during treatment. Historically, this was information offered to patients; however, it is an outdated recommendation that can still be found on some web pages. Dr. Barton-Burke also reported that patients occasionally report taking oral supplements, based on online medical advice, that are considered contraindicated with radiation therapy due to their high antioxidant content (eg, vitamin C, vitamin E, beta carotene, selenium). While antioxidants are perceived as important and healthy in other circumstances, antioxidant supplementation could be problematic in the setting of some cancer therapies. For example, the mechanism of radiation therapy largely relies on the ability to generate oxidative stress through increasing reactive oxygen species; reduction of oxidative stress through antioxidant supplementation could interfere with this therapeutic mechanism. Patients may hear about supplements or other alternative remedies from friends, family, or online communities, but it is important to be aware of composition and evidence for supplements before taking them. Dr. Friedman cautioned against the misperception that natural is equivalent to safe and effective; even if products are perceived or marketed as natural, their use should still be evidence-based as they have potential to interact with other therapies. Within her institution, Dr. Barton-Burke recommends the Integrative Medicine Department at MSKCC as a resource for patients seeking advice about alternative or adjunctive therapies.

Telehealth

At the beginning of the COVID-19 pandemic, healthcare providers were thrust into utilizing telehealth with little preparation. Now, telehealth has been integrated into many medical practices and continues to change the way health care is delivered and accessed by patients. For oncology patients in particular, telemedicine offers an important opportunity for patients, especially those in active treatment, to access timely care while remaining at home and therefore limiting exposure to COVID-19 or other infections. Inspired to understand the nursing perspective on the adjustment to telehealth and assessing patients online, Ms. Adames conducted a qualitative study including focus group interviews with radiation oncology nurses from various sites within the MSK Comprehensive Cancer Centers. Nurses were asked to discuss their experiences in the peak months of the pandemic when they were exclusively working via telehealth. Per Ms. Adames, this study unearthed notable limitations to assessing patients only by phone or video during the pandemic. For example, it was often difficult to establish a visual correlation with a patient's verbal description of cAEs, and visualization of lesions was often limited by a patient's ability to optimize photo or video quality in terms of lighting, location, and sound. This was especially true in cases where radiation was being administered in private or sensitive areas that patients were reluctant to take photos of or share during a video call, such as the rectum or

the breast. The speakers concluded that while telehealth is a valuable tool that may help improve access for patients, there is still immense value to in-person urgent and routine nursing care for certain skin issues during radiation treatment. Dr. Friedman reiterated that fast access to appointments is essential for a successful supportive oncology dermatology clinic, and in certain situations, telehealth may be a tool to enable this.

Strategies for Effective Oncodermatology Programs

The foundation of a successful supportive oncology dermatology program is effective communication and collaboration between the multidisciplinary care team. As discussed by the podcast speakers, building relationships and teamwork between nursing and physician colleagues in oncology and oncology dermatology is essential. An oncology dermatology team may include physicians, nurses, other healthcare providers, and support staff from medical oncology, radiation oncology, and dermatology; experts in their respective roles can work in parallel to assess different aspects of an issue. The speakers agree that research is a useful bridge to clinical collaboration and team-building; in Dr. Barton-Burke's words, research is a "team sport." She provided the example of a project including herself and Dr. Mario Lacouture, Director of the Oncology Dermatology Program at MSKCC, which culminated in a book chapter on oncology dermatology published by the Oncology Nursing Society. Dr. Barton-Burke and Ms. Adames also recalled previous positive experiences when physicians collaborated on nursing quality improvement projects. For example, the radiation department at MSKCC noted that there was high variability in patient recommendations for over-the-counter skin care and, in response, conducted an intra-departmental randomized control trial including radiation oncology nurses and radiation oncologists. Through this trial, a consensus was reached on optimal recommendations, and a new, accepted standard of care was established. She emphasized the importance of the inclusion of all stakeholders in research and discussions about management practices.

Conclusion

Supportive oncology dermatology is expanding out of growing interest and increasing necessity. As Dr. Friedman pointed out in this podcast episode, we should expect an exponential increase in cAEs given the advent of new cancer therapies which, based on their known mechanisms of action, inevitably cause side effects on skin, hair, and nails. Effective cancer management truly "takes a village;" the ultimate goal is that early recognition and appropriate management of the cutaneous side effects of cancer treatment will allow oncologists to uninterruptedly treat cancer and ultimately improve patient morbidity and mortality. Additional collaborative research is required to assess the utility of management strategies for oncology dermatology patients and develop consensus guidelines for commonly seen cAEs. Although there is much work to be done, the passion and efforts of nursing experts such as Dr. Barton-Burke and Ms. Adames continue to make significant impact and drive the field forward.

Disclosure

This Current Clinical Solutions to the *Journal of Drugs in Dermatology* is supported by La Roche Posay Laboratoire Dermatologique.

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To learn more about this topic, please watch the two-part podcast series on JDD online, supported by an independent medical education grant provided by La Roche-Posay.

