

ASSOCIATION OF COMMUNITY
CANCER CENTERS

MULTIDISCIPLINARY
ADVANCED
CUTANEOUS
SQUAMOUS CELL
CARCINOMA CARE



MODELS OF EFFECTIVE
CARE DELIVERY

TABLE OF CONTENTS

Introduction	1
Multidisciplinary Approaches to Management of Patients with cSCC	2
Mapping Best Practices in Multidisciplinary cSCC Management	3
Models of Effective Practices in cSCC Care	
Ellis Fischel Cancer Center University of Missouri Health Care	4
The George Washington University Cancer Center	8
The Knight Cancer Institute Oregon Health & Science University	12
Summary	15
References	16
Acknowledgements	17

INTRODUCTION

The incidence of basal and squamous cell carcinomas has been steadily increasing. Although only a small number of cutaneous squamous cell carcinomas (cSCCs) metastasize to regional lymph nodes or more distant sites and mortality for cSCC is low, significant morbidity and high cost of care are associated with this disease. In order to address associated morbidity and care costs, some cancer centers in the United States (U.S.) are beginning to pilot multidisciplinary programs in cutaneous oncology to treat patients with cutaneous T-cell lymphoma, Merkel cell lymphoma, and cSCC.

The Association of Community Cancer Centers (ACCC) launched an educational project in early 2019 to learn more about these programs and to identify effective practices in multidisciplinary management of patients with advanced cSCC. ACCC's Multidisciplinary Advanced Cutaneous Squamous Cell Carcinoma Care project provides examples of effective practices in diagnosing, testing, and treating patients with cSCC to advance comprehensive care for this patient population.

Epidemiology and Risk Factors for cSCC

Cutaneous squamous cell carcinoma (cSCC) is a common skin cancer that results from uncontrolled growth of epidermal keratinocytes and is the second most common type of skin cancer in the U.S.¹ Although cSCC can occur on any skin surface, a majority of tumors occur on the skin of the head and neck and typically present as an indurated keratinizing nodule or crusted tumor that may ulcerate, or as an ulcer without keratinization.² cSCC is caused primarily by cumulative exposure to ultraviolet light, as well as exposure to ionizing radiation, human papillomavirus (HPV), and photosensitizing medications (e.g., antifungal medications, diuretics, BRAF inhibitors).³ Genetics, chronic immunosuppression (e.g., as a consequence of organ transplant or human immunodeficiency virus infection), family history of cSCC, cigarette smoking, and chronic inflammation (e.g., from scars, burns, or chronic ulcers) are additional risk factors. The most recent data estimate an annual incidence of cSCC in the U.S. of approximately 700,000 cases with a 1.23 ratio of basal cell carcinoma to squamous cell carcinoma. However, the precise incidence of cSCC is challenging to estimate because cSCC is not usually reported to cancer registries and epidemiological studies often combine data on cSCC with basal cell carcinoma and other nonmelanocytic skin cancers.^{4,5} Combined data for basal and squamous cell carcinomas suggest that in the U.S. between 2006-2012, incidence increased from an estimated 3.5 million

cases to 5.4 million.⁵ Like basal cell carcinoma, the incidence of cSCC is also increasing throughout the world. Incidence in the U.S. varies by geography (e.g., cSCC is higher in Arizona than New Hampshire), age (cSCC is 5-10 times higher among people older than 75 years), and ethnicity (cSCC is higher among Caucasians than African Americans and Asians).⁶ Limiting sun exposure, using sunscreen, reducing immunosuppressive therapy, and early screening of high-risk individuals can substantially reduce the risk of developing cSCC.

Current Treatment Modalities

National Comprehensive Cancer Network (NCCN) guideline-recommended treatment options for cSCC at low risk of local recurrence include surgical excision (Mohs micrographic surgery), cryotherapy, and photodynamic therapy.⁷ Primary radiation therapy is generally reserved for patients who are not candidates for surgery. Surgical excision can be extensive and psychologically traumatic, especially when treatment involves the face, head, neck, or hands. Surgery can result in scarring or disfigurement and may require reconstructive surgery. Head and neck surgery can also functionally disrupt eating, swallowing, breathing, and speaking. While low-risk cSCC has a high cure rate, a subset of patients with certain high-risk features are at increased risk for metastasis or death. Until recently, treatment options have been more limited for these patients. A combination of surgery, radiation, targeted therapy, and systemic therapy is considered an option for patients with locally advanced or high-risk cSCC, while radiation therapy and systemic therapy are considered options for patients with metastatic disease. Systemic therapies, which have been typically based on tumors of similar histology and location (e.g., head and neck carcinoma), include traditional chemotherapeutic agents and agents targeting the epidermal growth factor receptor, such as cetuximab. In September 2018, based on results from a phase 1/2 study that achieved a 47% response rate, the U.S. Food and Drug Administration (FDA) approved the anti-programmed cell death 1 protein (PD-1) antibody cemiplimab-rwlc for patients with metastatic cSCC or locally advanced cSCC who are not candidates for curative surgery or radiation.⁸ Other checkpoint inhibitors to treat cSCC are currently under investigation.

MULTIDISCIPLINARY APPROACHES TO MANAGEMENT OF PATIENTS WITH cSCC

Clinical Evidence for Cemiplimab-rwlc in cSCC⁸

Two cohort studies investigated anti-PD-1 antibody cemiplimab-rwlc among patients with advanced cSCC. An international phase 1 expansion cohort study included 16 patients with metastatic disease and 10 patients with unresectable locally advanced disease. The phase 2 cohort study included 59 patients with regional or distant metastases.

Patients with a solid organ transplant, patients with autoimmune disease treated with immunosuppressive therapy in the previous five years, and patients with hematologic malignancies were excluded from the studies. More than half (56%) of patients had received prior systemic therapy, and 82% had received radiation therapy.

The objective response rate, based on Response Evaluation Criteria in Solid Tumors (RECIST), in patients with metastatic disease was 47% (n=35) and 60% in patients with unresectable locally advanced disease (n=6). Responses were durable for 61% of patients for ≥6 months and treatment was well tolerated. Grade 3 or higher pneumonitis was reported for 3% of patients and diarrhea was reported for 2% of patients. No single grade 3 or higher toxicity was reported in more than 5% of patients.

The optimal management of patients with high-risk features associated with recurrence or advanced cSCC can be complex and requires the expertise of several specialists (see Table 1, page 3). Multidisciplinary management has emerged as a valuable approach to support treatment planning in head and neck cSCC and has been shown to be especially effective in managing malignant tumors.⁹ This multidisciplinary approach includes cutaneous oncologists, surgeons, radiation oncologists, medical oncologists, dermatologists, rehabilitation specialists, and speech pathologists, as well as a multidisciplinary tumor board, which is a key asset for collaborative discussion of the clinical and social issues associated with advanced cSCC and development of a coordinated treatment plan. Accordingly, NCCN guidelines recommend multidisciplinary tumor board discussion of complicated and high-risk skin cancer cases and the American College of Surgeons Commission on Cancer requires a multidisciplinary tumor board for cancer program accreditation.^{7,10}

MAPPING BEST PRACTICES IN MULTIDISCIPLINARY cSCC MANAGEMENT

**Table 1: High-Risk Features of cSCC
for Recurrence and Metastasis⁷**

Clinical	
Location/size	Area L \geq 20 mm Area M \geq 10 mm Area H
Borders	Poorly defined
Primary vs recurrent	Recurrent
Immunosuppression	(+)
Site of prior RT or chronic inflammatory process	(+)
Rapidly growing tumor	(+)
Neurologic symptoms	(+)
Pathologic	
Degree of differentiation	Poorly differentiated
Acantholytic (adenoid), adenosquamous (showing mucin production), desmoplastic, or metaplastic (carcinosarcomatous) subtypes	(+)
Depth (thickness or level of invasion)	>6 mm or invasion beyond subcutaneous fat
Perineural, lymphatic, or vascular involvement	(+)

- Area L = trunk, extremities (excluding hands, nails, pretibia, ankles, feet)
- Area M = cheeks, forehead, scalp, neck, pretibia
- Area H = “mask areas” of face, genitalia, hands, feet

Although recommendations do not yet specify the format and structure of multidisciplinary approaches, some cancer programs in the U.S. are beginning to pilot multidisciplinary programs in cutaneous oncology to treat patients with cutaneous T-cell lymphoma, Merkel cell lymphoma, and cSCC. To learn more about these programs and to identify effective practices in multidisciplinary management of advanced patients with cSCC, ACCC established an expert multidisciplinary Advisory Committee in early 2019 to provide guidance and insights for its educational project, Multidisciplinary Advanced Cutaneous Squamous Cell Carcinoma Care. Based on criteria set up by the Advisory Committee, ACCC selected three regionally diverse cancer programs in areas of high cSCC prevalence to visit and gather effective practices in multidisciplinary cSCC management.

- Ellis Fischel Cancer Center, University of Missouri Health Care, in Columbia, Missouri, is the second oldest cancer center in the U.S. A certified member of the MD Anderson Cancer Network, Ellis Fischel Cancer Center is an Academic Comprehensive Cancer Program accredited by the American College of Surgeons Commission on Cancer (CoC).
- The George Washington University (GW) Cancer Center is a CoC-accredited, academic cancer center in the heart of Washington, D.C., that integrates and coordinates all oncology activities across its affiliated partners, the George Washington University, the GW Medical Faculty Associates, and the GW Hospital.
- The Knight Cancer Institute (KCI) has been an NCI-designated Comprehensive Cancer Center since 1997 and is a CoC-accredited Academic Cancer Program. KCI is the only NCI-designated cancer center between Sacramento, California, and Seattle, Washington. KCI sees a large volume of high-risk cSCC patients.



ELLIS FISCHEL CANCER CENTER COLUMBIA, MISSOURI

Building a Dedicated Cutaneous Oncology Program

The MU Health Care's Ellis Fischel Cancer Center in Columbia (population 117,165) has provided multidisciplinary cancer care in Missouri since 1940.

This cancer center serves a wide, largely rural, geographic area that includes several counties with high, and growing, rates of Medicare enrollment.¹¹ Many patients with cancer of all types travel from other parts of Missouri as well as neighboring states to Ellis Fischel Cancer Center for treatment in a newly opened, patient care tower located on the University Hospital campus that includes an outdoor healing garden, digital mammography and radiology suites, and an ambulatory infusion unit. The cancer center provides cancer screening, diagnosis, and treatment under one roof, and since the construction of this new building in 2013, disease-site dedicated cancer programs have expanded, including in cutaneous oncology.

Collaboration, Collaboration, Collaboration

Dermatologist/dermatopathologist Emily Smith, MD, explained that a dedicated cutaneous oncology program to serve patients with cSCC as well as other cutaneous cancers was warranted because the Ellis Fischel Cancer Center sees patients who have high-risk clinical or histopathologic features. The first step toward establishing the cutaneous oncology program was to strengthen existing collaborative relationships between dermatologists, head and neck surgeons, and radiation and medical oncologists who already contribute to a multidisciplinary tumor board that reviews head and neck cancers, including cSCC. Dr. Smith noted that many of the dermatology, surgical, and oncology specialists at Ellis Fischel Cancer Center have been trained in and are comfortable working in a collaborative environment. She emphasized that patient care “works better when we work together.”

This deep commitment to collaboration, combined with a highly attuned sense of roles and responsibilities and a compact physical environment where colleagues can easily meet with each other and talk face-to-face, helped to quickly establish the multidisciplinary dermatology/oncology tumor board as per NCCN guideline recommendations. Members currently include dermatologists, radiation oncologists, pathologists, medical oncologists, the head and neck surgical team, and dedicated patient navigators. The dermatology/oncology tumor board meets monthly, providing an opportunity for a full discussion of care and prospective treatment planning for patients with advanced cSCC as well as the identification of patients for cancer registry entry and/or clinical trial enrollment. Moving forward, the dermatology/oncology team anticipates that the tumor board will help them establish pathways for managing high-risk cSCC patients that include modalities such as surgery, neoadjuvant therapy, chemoprevention and, increasingly, immunotherapy.

Telehealth in cSCC

While telehealth has not yet been used to support tumor board participation, Ellis Fischel Cancer Center is part of the Health Network of Missouri (HNM) and the information technology infrastructure to support telehealth for provider-to-provider teleconsults has recently improved. Ellis Fischel Cancer Center currently hosts a unique program that is part of the Project ECHO network, a practice model that provides medical education, in which providers are exposed to a weekly education session on different topics, including melanoma. There is potential for a similar program on cSCC, although some challenges with providers, Health Insurance Portability and Accountability Act (HIPAA) requirements, and uncompensated care need to be addressed.

An Integrated Team: Patient Navigators, Social Workers, and Pharmacists

Currently, community providers in primary care or dermatology typically refer patients with cSCC to the head and neck clinic for evaluation. Following referral, a scheduler and nurse practitioner collaborate to arrange a clinic appointment as soon as possible and collect the relevant pathology, laboratory, and imaging records to support evaluation and decision-making. Non-clinical patient navigators screen patients for distress and identify any ancillary services that patients might need, such as speech therapy. If required, these patient navigators also coordinate additional same-day imaging and consultations with medical/radiation oncology or dermatology. Six patient navigators, a relatively new resource at EFCC, serve as a point of contact for different disease sites and follow patients through care. The head and neck oncology clinic has also developed a patient management protocol that is based on NCCN guideline recommendations and, as necessary, incorporates pre-operative education, social work, and dietary support to patient care. This protocol is currently driven by either patient navigators or clinicians and will likely be expanded to include cSCC patients following completion of a pilot program.

Social worker Christina Penn, MSW, LCSW, explained that many cSCC patients need additional non-clinical resources such as transport, information on employment rights, or financial assistance. She emphasized, “We have a disproportionate amount of people that are uninsured, who come from rural areas, and who don’t come in a vacuum. Cancer isn’t their only problem.” Therefore, a social worker meets with patients following a diagnosis of cSCC, determines a plan that identifies appropriate resources according to patient needs, and collaborates with financial counseling to evaluate if patients are Medicaid eligible or underinsured.

Pharmacists also contribute their expertise to managing cSCC patients by discussing their medications with physicians and enrolling eligible patients for financial assistance. Jacob Kettle, PharmD, BCOP, explained that part of his role as Clinical Oncology Specialist also involves discussions with medical oncologist Jaffar Hilli, MD, about systemic therapy dosing, toxicity monitoring, and how best to optimize supportive care options for patients. Such discussion is especially pertinent for newly approved therapies. Dr. Kettle also provides inventory oversight, evaluates appropriate drug and resource use, and identifies strategies to drive global practice change and improve patient experience (e.g., by minimizing infusion time).

The cutaneous oncology program, specifically for head and neck cancer patients, has developed a standardized algorithm to address the needs of patients with longer term follow-up needs (e.g., after surgery or immunotherapy) and help determine which patients will be followed up by the Ellis Fischel Cancer Center team and which patients can be followed up by their community providers.

Patient Education, Survivorship Care Planning, and Follow-Up

Multidisciplinary team members at Ellis Fischel Cancer Center invest heavily in face-to-face, verbal patient education and spend considerable time during clinic visits teaching patients with cSCC about medications and self-care. Following surgery or radiation therapy, dermatologists typically provide treatment summaries for referring providers and follow up with patients themselves when they return to their communities. For patients who have had systemic therapy, medical oncologists disseminate a post-treatment plan to the referring providers to guide monitoring and follow-up. Currently, survivorship care plans (SCPs) are provided to patients with more common cancers (e.g., breast, lung, endocrine, colon, head and neck) when they have completed treatment with curative intent, but there are improvement proposals in place to ensure that both patients with cSCC and their referring providers receive a copy of a SCP on discharge.

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The Evolving Role of Pathology

Ellis Fischel Cancer Center has surgical pathology and dermatopathology service lines that are both available to support the cutaneous oncology program; however, as Dr. Smith explained, there are some logistical challenges that the Ellis Fischel Cancer Center team hopes to address in the near future. Currently, as is common in many academic institutions, some specimens are routed to surgical pathology versus dermatopathology depending on which provider performed the biopsy or excision, while other specimens might be interpreted by both dermatopathology and surgical pathology. Dr. Smith hopes these service lines will be integrated at some point in the future and emphasized how important it is for pathologists to collaborate and share information about how they are interpreting tumor features, since pathologists may have different thresholds for high-risk cSCC. This challenge is not unique to Ellis Fischel Cancer Center as interpretive variability is the focus of considerable debate within the specialty of pathology. To address this challenge, when patients with cSCC are referred to the cutaneous oncology program with pathology reports from outside Ellis Fischel Cancer Center, dermatopathologists from the program will review the pathology slides to establish a threshold based on findings for each patient that supports a consensus approach to grading, recording, evaluation, and diagnosis. Moving forward, the Ellis Fischel Cancer Center team also hopes to standardize the pathology report for cSCC, clearly specifying the presence or absence of high-risk features, as is currently the case for melanoma. The team is confident that the availability of immunotherapy will drive the development of management algorithms directed at identification of patients who might benefit from pre-operative work-up and treatment.

Community Clinician Outreach

While the Ellis Fischel Cancer Center team acknowledges that the community dermatology providers with whom they liaise are knowledgeable about cSCC, dermatologist and Mohs surgeon Nicolas Golda, MD, expressed concern that many primary care providers may be unable to identify patients who warrant more attention. Accordingly, clinicians involved in the cSCC program provide community education about skin cancer, including teaching providers about high-risk characteristics, demonstrating biopsy technique via video instruction, and presenting an ongoing community lecture series on melanoma. The team is currently focused on educating community providers on referral processes via networking events (e.g., regional conferences) and by encouraging providers to communicate directly with them by cell phone/email.

Addressing Operational Challenges

Developing the cutaneous oncology program at Ellis Fischel Cancer Center has meant that appropriate specialists are now able to collaborate and provide more unified care management for cSCC patients. Moving forward, addressing operational and logistical issues will be key to program development. For instance, although the cutaneous oncology program captures a majority of cSCC patients who are referred directly to dermatology or the head and neck team, the lack of standardization in referral processes from primary care providers means that many patients who need multidisciplinary care may potentially be missed. To meet this challenge a new patient scheduling team is being onboarded to triage referral calls and direct patients to the appropriate specialist. There are also persistent logistical challenges associated with coordinating treatment options for high-risk patients. To date, the compact and tight-knit character of the Ellis Fischel Cancer Center team has enabled dermatology and head and neck surgeons to consult at the point-of-care and work together to find rapid solutions for patients. The ease of access to colleagues has also meant that there has not yet been a need to formalize this consultation process. However, as treatment options for cSCC patients expand (including using immunotherapy to downstage tumors prior to surgery), the team agrees it will be important to create a process that meets the needs of high-risk patients who do not always fit into clear-cut pathways.



THE GEORGE WASHINGTON UNIVERSITY CANCER CENTER WASHINGTON, D.C.

Building a Dedicated Cutaneous Oncology Program

The cutaneous oncology program at the George Washington University (GW) Cancer Center was formally launched in August 2018 as the brainchild of dermatologic oncologist and Mohs surgeon Vishal Patel, MD, FAAD, FACMS, who is the director of the cutaneous oncology program, and Eduardo M. Sotomayor, MD, the Dr. Cyrus and Myrtle Katzen Director of the GW Cancer Center. The GW Cancer Center is a collaboration of the George Washington University, the GW Hospital, and the GW Medical Faculty Associates, and serves the largely urban/suburban population of Washington, D.C., which has one of the highest cancer incidence rates in the U.S.¹² Although there are four other cancer centers in D.C., for many cutaneous cancer patients, access to multidisciplinary care may be limited by socioeconomic deficits and delayed referral to oncology until lesions are advanced.

The GW Cancer Center is now in an active growth phase to develop dedicated multidisciplinary disease-specific cancer programs that are supported by clinical research, personalized therapy, and team care. The recruitment and infrastructure development phases are complete with a newly built multidisciplinary oncology clinic on the first floor of the GW Medical Faculty Associates. cSCC was a natural choice for strategic investment because GW has a robust reputation for treating patients with advanced melanoma. Accordingly, oncodermatologists and other specialists with cross-disciplinary interests have been recruited from Moffitt Cancer Center for the cutaneous oncology program.

Expanding Access to Multidisciplinary cSCC Care

The cutaneous oncology program is designed to serve patients with cSCC and other cutaneous cancers throughout the care continuum—from prevention, through specialist treatment, to survivorship, and long-term follow-up. Although cSCC has a vast breadth of presentation, the dermatology clinic is typically the primary access point for patients with low-risk cutaneous lesions. Dr. Patel and his team aim to increase this access point and expand patient volume. Since opening its doors, the clinic has seen an immediate influx of patients with advanced cSCC who require a multidisciplinary approach for care (approximately 3-4 patients per month). In order to continue this expansion over the next five years, GW Cancer Center leadership plans to build an outpatient cancer clinic with centralized referral structured around a multidisciplinary framework that is equipped to deal with hematological, head and neck, and cutaneous malignancies. This growth will expand access to cancer care for patients in Washington, D.C.; provide opportunities for earlier disease staging in cSCC; enable discussion among surgeons, radiation oncologists, and medical oncologists; support prospective treatment planning for cSCC patients with metastatic or nodal lesions; and provide clinical trials access to patients with advanced disease.

Patients with advanced cSCC are currently identified via metastatic work-up (e.g., ultrasound-guided fine-needle aspiration biopsy of a neck mass) in the head and neck cancer clinic. Other high-risk patients are being followed long term by dermatology on the basis of either previous treatment or the presence of high-risk features. In order to integrate these access points, a program goal is to create an umbrella for cSCC patients through the thoughtfully designed 4,600 square feet of clinic space on three floors that houses radiation oncology, dermatology, and an infusion unit, as well as 18 rooms for exams, procedures, and patient-provider consultations. This integrated space will allow for coordination of same-day visits between specialists and ease navigation for patients with the support of dedicated clinical coordinators for cutaneous oncology who will collect patient data to facilitate navigation through care. At present, the program is supported by a program coordinator who schedules same-day patient appointments for different providers. The social workers and navigators address access, logistical, and emotional barriers; identify transportation or insurance resources; secure reports from other clinics; and connect patients to appropriate resources.

Follow-up is a growth area in which the multidisciplinary clinic will provide an anchor point for patients following treatment completion. This umbrella will be especially important for high-risk patients who will require not only dermatology follow-up (comprehensive skin exam to identify new lesions) but also surveillance for recurrence and complications from treatment (e.g., clinical exam, imaging, neck ultrasound).

The GW Cancer Center is a member of the Oncology Research Information Network (oriencancer.org/#top) and will use its protocol to collect patient tissue for molecular studies. As is common in other comprehensive cancer centers, prior to surgery, a clinical coordinator will consent the patient for tissue collection during surgery and then the biopsy will be routed first to pathology, then to a biorepository center.

Multidisciplinary Response to Patient Needs, Treatment Planning, and Clinical Trials

Although low-risk cSCC is commonly treated surgically, the potential severity of cSCC can be challenging for patients to understand and to accommodate in their everyday lives. For instance, Dr. Patel shared a recent experience in which he had discussed a surgical approach with a cSCC patient who expressed concern about having aggressive therapy for his cSCC. He relayed having a family member with suicidal intention and felt treatment might push the family member over the edge. The patient expressed not knowing how to deal with his cancer while caring for his family member. In order to acknowledge this patient's life circumstances, Dr. Patel realized that the team would have to design a different treatment plan. Therefore, a key program goal is to prospectively identify patients with high-risk features and tailor treatment in ways that recognize and address the emotional and social challenges that patients may be experiencing.

Our goal here ultimately is to assure that high-risk patients with large or complex tumors receive Mohs micrographic surgery initially followed by head and neck resection and reconstruction that is preplanned in advance rather than the stepwise way often currently employed.

We've seen patients who had small procedures done but needed a much bigger procedure to happen in the first place. This could have been avoided had it been planned out.

To this end, the multidisciplinary tumor board for patients with advanced cutaneous malignancies with contribution from surgery, dermatologic oncology, radiation and medical oncology, is the focal point for discussion about diagnosis, assessment of risk recurrence, determining the need for surgical staging (i.e., sentinel lymph node biopsy) or adjuvant therapy, and clinical decision-making. Social workers currently play a key role in addressing patient anxieties and concerns and in providing psychosocial support. In the future, patient navigators and coordinators will also help patients navigate through care. Dr. Patel explained that the overall goal of the cutaneous oncology program is to prevent siloed care and establish a dynamic algorithm that can be adjusted according to patient and disease characteristics. He elaborated, "Our goal here ultimately is to assure that high-risk patients with large or complex tumors receive Mohs micrographic surgery initially followed by head and neck resection and reconstruction that is preplanned in advance rather than the stepwise way often currently employed. We've seen patients who had small procedures done but needed a much bigger procedure to happen in the first place. This could have been avoided had it been planned out." The team anticipates that this dynamic approach will require considerable provider education to change current mindsets and practice.

Expanding patient volume has also led to the GW Cancer Center becoming a clinical trial site sooner than anticipated; the center will soon host a clinical trial under Dr. Patel's oversight evaluating the use of immunotherapy as adjuvant treatment for patients with high-risk cSCC after surgery and radiation. The center's goals for increasing clinical trial participation are to expand patient access to immunotherapy treatment, build research data, refine patient stratification beyond American Joint Committee on Cancer staging (e.g., via Brigham and Women's staging for cSCC), and standardize treatment pathways for cSCC patients based on tumor stage.

Patient Education, Community Outreach, and Survivorship

The GW Cancer Center is currently pursuing NCI designation, which mandates community outreach and engagement, career development, and education. To this end, education for cSCC patients under surveillance, receiving treatment, or at risk for secondary malignancies remains an area for concerted development. Currently, the cutaneous program relies on NCCN treatment guidelines for education but will, in the future, be developing custom education resources including a comprehensive cutaneous oncology website organized around a multidisciplinary framework. The development of such materials remains challenging because there are areas of broad disagreement to which there are as yet no answers (e.g., whether or not to use sentinel lymph node biopsy, when to use adjuvant radiation therapy); however, the GW Cancer Center has hired a director for education to develop tailored education materials for particular tumors, including cSCC. A physician assistant has also been recruited to build a survivorship clinic that will include front-end patient education, and another area for future focus is clinician education for infectious disease providers or other specialties who treat patients with cSCC.

Cutaneous Oncology Community Outreach

The GW team is determined to prevent the siloes that often become established between specialties within healthcare, as well as between community and academic providers. To this end, they are working to develop outreach strategies that cultivate collaboration among community and academic providers and expand patient access. For instance, the GW team recently invited community dermatologists to network at an annual GW alumni reception and learn more about the cutaneous oncology program. The team also announced the program to peers at a reception at ASCO 2019. Both events were enthusiastically received and followed by requests for additional program information. Concurrently, the GW Cancer Center team is developing written marketing materials to raise awareness in local communities about cSCC.



THE KNIGHT CANCER INSTITUTE PORTLAND, OREGON

Multidisciplinary Cutaneous Oncology Program: A Natural Evolution for KCI

The Knight Cancer Institute (KCI) at Oregon Health Science University is the only NCI-designated cancer center between Sacramento, California, and Seattle, Washington. The availability of outcomes data for cSCC patients, the approval of cemiplimab-rwlc, and the publication of updated guidelines for radiation therapy have opened new avenues of research and are driving a more focused discussion about treatment modalities (e.g., neoadjuvant therapy, combination immunotherapies, sequencing radiation, and the role of immunotherapy in transplant patients).^{8,13,14} Therefore, the cutaneous multidisciplinary team at KCI believe that cSCC management is at a fork in the road and will benefit from a prospective multidisciplinary approach. This intentional shift toward multidisciplinary programs at KCI also reflects its leadership's broader vision for patient care.

KCI has a long-standing, interdisciplinary melanoma program with streamlined procedures and considerations for multidisciplinary care at which advanced cSCC and other non-melanoma patient cases are currently presented during a weekly tumor board. Dermatologist and Mohs surgeon Justin Leitenberger, MD, and his colleagues have extended the melanoma program as the template for the cutaneous oncology program. KCI has a high volume of high-risk cSCC patients among transplant patients who are immunosuppressed, and dermatologist Elizabeth Berry, MD, noted that the number of patients with cSCC who have been exposed to tanning beds is increasing. Additionally, KCI is also seeing an increase in the number of cSCC referrals from rural dermatology providers. In addition to dermatologists, surgical, radiation, and medical oncologists, head and neck and oral maxillary facial surgeons, scientists and clinicians with clinical trial expertise from the melanoma team are also involved in the cutaneous program. A multidisciplinary dermatology tumor board, in which dermatopathology and radiology are already integrated, provides patients with rapid responses and treatment plans. The tumor board is hosted in a new state-of-the-art building that also houses a Multidisciplinary Dermatology Clinic to support prospective management of patients with cutaneous cancers via prevention, risk reduction, and treatment.

Supporting Collaboration Versus Competition Through Virtual Tumor Boards

The KCI team hopes to integrate other services into the multidisciplinary tumor board such as pathology and dermatopathology, and to expand provider access via virtual tumor boards. Virtual tumor boards (live and on demand) represent an education opportunity that allows providers in rural areas, especially dermatologists, to present patient cases, receive feedback on optimal management, and be involved in discussion about the multidisciplinary management of complex patient cases. An added value of virtual tumor boards is that community providers will be equipped to manage patients following their return to the community, and patients know that community providers will be able to connect them with optimal multidisciplinary care, including clinical trials. The availability of virtual tumor boards also fosters collaboration versus competition between community providers and academic centers and allows academic centers to track epidemiological or survivorship data.

Multidisciplinary Dermatology Clinic

The Multidisciplinary Dermatology Clinic currently manages high-risk cSCC patients who are referred from both dermatology and the transplant service at OHSU. The clinic is structured to ensure that clinicians have time, space, and resources to address the multifactorial contributors to skin cancer as well as to educate patients on risk reduction, collaborate with transplant physicians, adjust immunosuppressant medication, and discuss tailored treatment plans with low-risk cSCC patients (e.g., topical and/or aggressive chemotherapy, superficial destruction, Mohs surgery). The Multidisciplinary Dermatology Clinic also provides a dedicated home clinic, or “one-stop shop,” in which clinicians can follow high-risk patients who have been presented at the Multidisciplinary Dermatology Tumor Board. The KCI team consider this “one-stop shop” as a vital approach to enable patients with high-risk/advanced cSCC to navigate the range of appointments needed to support their care. Currently, when patients are referred to the clinic they interact first with schedulers by phone or in-person. These key personnel provide continuity to create and sustain the sense of a home clinic, ensure that patients have the documentation they need prior to clinical consult, and review insurance coverage. A centralized KCI registration department handles financial assistance, if necessary.

Immunotherapy

Medical oncologist Matthew Taylor, MD, is the program director for phase 1 clinical trials at KCI and has considerable expertise in treating melanoma patients with checkpoint inhibitors. He is involved in multidisciplinary dermatology tumor board discussions about optimal management for cSCC patients with late-stage, unresectable tumors, including the potential for treatment with cemiplimab-rwlc, with which he and his team have had considerable success. The oncology pharmacist manages prior authorization and patient assistance acquisition and to date there have been no problems with patient access to cemiplimab-rwlc. Dr. Taylor has also had success in managing the side effects associated with cemiplimab-rwlc, which, he notes, are similar to the toxicity profiles for other checkpoint inhibitors. To mitigate potential side effects, patients receive verbal and written advice (e.g., manufacturer handout) from a medical oncology nurse and are instructed when to call a provider if they notice emerging symptoms, as well as which provider to contact.

The management of cSCC patients who have had a transplant and are treated with cemiplimab-rwlc is particularly challenging.⁷ Immunosuppression in these patients increases the risk of allograft rejection; therefore, careful monitoring of treatment and coordination with transplant surgeons is required. The KCI team is currently exploring ways to deepen the involvement of transplant surgeons and improve this coordination, such as via the web conferencing platform that currently supports virtual tumor boards. Dr. Berry explained, “We will be able to email a tumor board meeting link to transplant surgeons and make it easy for them to weigh in on discussion.”

Growth Opportunities: Super-Triage Navigators and Clinical Trials

In addition to medical assistants and nurses, the KCI team plans to recruit navigators and other support staff to enhance the coordinated care provided within the multidisciplinary dermatology program. The KCI vision for multidisciplinary navigation includes a clinical ombudsman whose role will entail building relationships with patients, liaising with patients to help them identify and procure resources, acquiring relevant records, scheduling with multidisciplinary dermatology team members, and navigating patients through the entire program, including enrollment in clinical trials. Sancy Leachman, MD, PhD, director of the Melanoma Research Program, explained, "The optimal navigator is a person who is aware of the higher programmatic structure from population science all the way to basic science and can help with everything from finances, social work resources, genetic counseling, across the whole program. I envision a navigator as the super triage-er."

Although there are, as yet, no clinical trials at KCI for cSCC there is considerable interest within the multidisciplinary group in clinical trial collaboration with other institutions (e.g., the Skin Cancer Outcomes Consortium – scoutconsortium.org). The team hopes that as the multidisciplinary care clinic flourishes more trials will matriculate into their services, especially for studies for immunotherapies that target cSCC.

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Shared Care Follow-Up

Medical oncologists currently share follow-up management with community dermatologists for some high-risk cSCC patients, especially patients who are geographically distant from KCI and have an established relationship with their dermatologist. In this shared follow-up, the oncologist operates in a consultative role, liaising with other specialists (e.g., transplant surgeon) and communicating specialist recommendations to the dermatologist. This shared follow-up is premised on foundational work by KCI staff who have cultivated relationships over the years with community dermatologists and other clinicians through regular education series and networking events. The strength of the connection created between the academic center and community clinicians through these relationships is important to support not only clinical practice, but also molecular profiling, and will help to yield rich, long-term clinical data as a platform for both basic science and tailored treatment.

Patient Education

Several options are currently in place to support patient education following treatment. Patients requiring systemic treatment have access to a group-based program (Infusing Knowledge) that is agent-specific and led by medical oncology nurse educators. Patients who have been treated for locally advanced cSCC (i.e., radiation or surgery) are monitored for recurrence, while high-risk patients receive prevention education (e.g., reducing sun exposure, wearing sunscreen). Most education is currently delivered verbally by physicians in the clinic. Efforts to expand education into the wider community include an annual transplant picnic at which members of the team share information with organ recipients and their families about reducing skin cancer risk.

Challenges Associated with Multidisciplinary Planning and Implementation

The planning and implementation of a multidisciplinary clinic involves considerable time, energy, effort, and upfront investment in staff and other resources. Dr. Leachman emphasized the importance of planning for the number of rooms that will be needed in the Multidisciplinary Dermatology Clinic, designing a logistics blueprint, identifying the types of patients that the clinic will serve, and assigning clinicians to manage specific patient populations. Kellen Strickland, RN, BSN, clinical nurse manager for Dermatology, stressed the importance of recruiting committed staff who share similar goals and are collectively working to create a meaningful vision for multidisciplinary care. She explained that one of the characteristics of the KCI team that drives its success is that everybody shares a perspective of, “How can we do the best for our patients?”

Even though clinicians may gain professional satisfaction from providing multidisciplinary care to patients, provider time spent in the Multidisciplinary Dermatology Clinic is not yet reimbursed in the same way that time is reimbursed in a regular clinic. Nonetheless, the KCI team is hopeful that as community referrals multiply and patient volume is boosted, downstream revenue will increase. Payer reimbursement for multidisciplinary care/teams would further enable cancer centers to provide the best possible care for their patients. Moving forward, the KCI team recognizes the absence of local and regional resources to support patients with high-risk features/advanced disease. They have identified a need for a support group tailored for advanced cSCC patients who have had transplant as a potential step toward raising awareness among community clinicians and patients about how devastating cSCC can be, and as a resource to support these patients.

SUMMARY

Although low-risk cSCC is often effectively treated with a variety of surgical modalities, advanced/metastatic cSCC is a rare and complex disease that requires dedicated multidisciplinary management. Identification of high-risk features in cSCC patients remains a vexing challenge in the absence of a standard definition of high-risk. Such identification is especially critical for patients who are likely to have poor outcomes and who might benefit from new therapeutic options. Until recently, therapeutic options for patients with advanced cSCC were limited to surgical resection with possible lymph node dissection, as well as radiation therapy with or without concurrent systemic therapy. The FDA approval of cemiplimab-rwlc in 2018 marks a major advancement in treatment options that positions targeting of the PD-1 pathway as a new standard of care in advanced cSCC. For instance, pembrolizumab is under investigation for adults with recurrent/metastatic cSCC that is not amenable to surgery, radiation therapy, or systemic therapy with initial data anticipated at the end of 2019.¹⁵

As new options are added to the treatment armamentarium, community cancer programs can access ACCC's Multidisciplinary Cutaneous Squamous Cell Carcinoma Care resources and expertise to support their development of multidisciplinary approaches to managing patients with cSCC at acc-cancer.org/cSCC.

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ACKNOWLEDGEMENTS

ACCC would like to thank the project Advisory Committee members and all of the cancer program staff who participated in the site-visit discussions for this project.

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- The George Washington University Cancer Center - Washington, D.C.
- The Knight Cancer Institute Oregon Health & Science University - Portland, Oregon

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