

# Enhancing Care for High-Risk CSCC: Experience of a Multidisciplinary Team at a Single Cancer Center

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## Abstract

**Introduction**  
High-risk cutaneous squamous cell carcinoma (HR-CSCC) poses challenges due to risk of recurrence, metastasis, and disease-specific death, compounded by a lack of standardized treatment guidelines. Multidisciplinary tumor boards address this gap through individualized treatment recommendations.

**Methods**  
Retrospective cohort study of HR-CSCCs evaluated by a multidisciplinary team of dermatologists, oncologists, surgeons, and radiologists from June 2023–November 2024. Demographics, tumor characteristics, and treatments were extracted from medical records. Clinic visits, specialists involved, and time to treatment were evaluated to assess impact.

**Results**  
Among 107 patients (mean age 74.9, SD 9.97), 81.31% were male and 26 (24.3%) were immunosuppressed. At presentation, 69 (53.5%) had locally advanced disease (LA; 44 (41.1%) local tumors, 7 (6.5%) in-transit metastases, and 18 (16.8%) local recurrences), 35 (27.1%) had regional metastases (RM; 21 (19.6%) nodal and 14 (13.1%) parotid metastases), and 3 (2.3%) had distant metastases (DM).

For LA, 13 (18.8%) underwent surgery monotherapy (10 (14.5%) Mohs, 3 (4.3%) excision). 23 (33.3%) underwent surgery with other treatments, including 15 (21.7%) adjuvant therapy, 4 (5.8%) neoadjuvant immunotherapy, and 4 (5.8%) neoadjuvant immunotherapy with ART. 16 (23.2%) had unresectable disease, treated with immunotherapy (9, 13.0%), systemic therapy (2, 2.9%), radiation (2, 2.9%), or other (3, 4.3%).

For RM, 24 (68.6%) underwent surgery with other treatments, including neoadjuvant immunotherapy and ART (14, 40%), neoadjuvant immunotherapy (6, 17.1%), and ART (4, 11.4%). Five (14.3%) had unresectable disease, and received immunotherapy (2, 5.7%), systemic TPF (1, 2.9%), definitive radiation (1, 2.9%), or other (1, 2.9%). One (2.9%) underwent parotidectomy alone.

For DM, all 3 (100%) had unresectable disease treated with immunotherapy. Mean time to treatment was 23.8 days (SD 18.1). Before treatment, 85 patients (79.4%) had 1–3 hospital visits, (mean 2.4, SD 1.2) and 76 (71.0%) consulted with 1–3 specialists (mean 2.9, range: 1-6).

**Conclusions**  
Multidisciplinary tumor boards facilitate personalized, efficient care for HR-CSCC, optimizing outcomes.

## Introduction

High-risk cutaneous squamous cell carcinoma (HR-CSCC) is associated with elevated risks of recurrence, metastasis, and mortality, often requiring more complex treatment than early-stage disease. Management is further complicated by the absence of standardized guidelines for advanced or immunosuppressed patients. Multidisciplinary tumor boards (MDTBs) integrate expertise across dermatology, oncology, surgery, and radiology to guide individualized treatment decisions. While common in other cancers, their role in HR-CSCC is less studied. In HR-CSCC, timely and coordinated decision-making is critical to selecting appropriate surgical, systemic, or radiation-based strategies. MDTBs may also reduce delays in care, minimize unnecessary procedures, and better triage patients for clinical trials or novel therapies. This retrospective study evaluates HR-CSCC cases managed by a multidisciplinary team at a single cancer center, focusing on patient characteristics, treatments, and care coordination. Our findings aim to inform and support more effective, personalized approaches to HR-CSCC management.

## Methods and Materials

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## Results

Among 107 patients (mean age 74.9, SD 9.97), 81.31% were male and 26 (24.3%) were immunosuppressed. At presentation, 69 (53.5%) had locally advanced disease (LA; 44 (41.1%) local tumors, 7 (6.5%) in-transit metastases, and 18 (16.8%) local recurrences), 35 (27.1%) had regional metastases (RM; 21 (19.6%) nodal and 14 (13.1%) parotid metastases), and 3 (2.3%) had distant metastases (DM).

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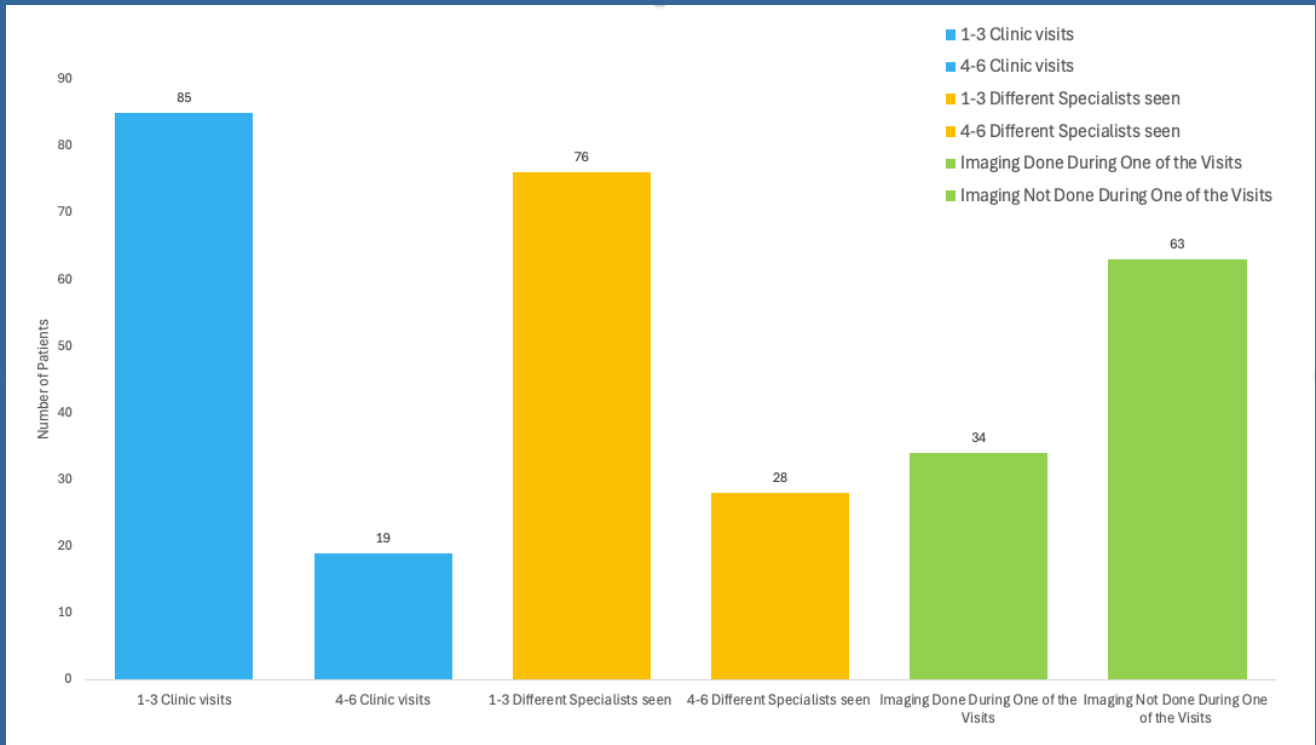
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Table 1. Treatment Modalities Across Disease Stages in High-Risk Cutaneous Squamous Cell Carcinoma (HR-CSCC)

Category	Locally advanced	Regional metastasis	Distant metastasis
Total Patients	69 (64.4%)	35 (32.7%)	3 (2.8%)
Treatments			
Surgery Only	13 (18.8%)	1 (2.9%)	--
Mohs	10 (14.5%)	--	--
Excision	3 (4.3%)	--	--
Parotidectomy	--	1 (2.9%)	--
Surgery + Other Treatment	23 (33.3%)	24 (68.6%)	--
Adjuvant therapy	15 (21.7%)	4 (11.4%)	--
Neoadjuvant therapy	4 (5.8%)	6 (17.1%)	--
Neoadjuvant + Adjuvant	4 (5.8%)	14 (40.0%)	--
Unresectable	16 (23.2%)	5 (14.3%)	3 (100%)
Immunotherapy	9 (13.0%)	2 (5.7%)	3 (100%)
Radiation Monotherapy	2 (2.9%)	1 (2.9%)	--
Systemic Therapy	2 (2.9%)	1 (2.9%)	--
Other	3 (4.3%)	1 (2.9%)	--
- Cetuximab transitioned to cemiplimab	1 (1.4%)	--	
- Taimogene laherparepvec (TVEC) combined with cemiplimab	1 (1.4%)	--	
- Neoadjuvant cemiplimab continued as primary treatment	1 (1.4%)	--	
- Cetuximab and palliative radiation	--	1 (2.9%)	

Figure 1. Clinic Visits, Specialists Seen, and Imaging Status Among Patients with High-Risk Cutaneous Squamous Cell Carcinoma assessed by a Multi-disciplinary Tumor Board



## Discussion

This study underscores the vital role of multidisciplinary tumor boards (MDTBs) in managing high-risk cutaneous squamous cell carcinoma (HR-CSCC), a complex disease often marked by advanced stage and immunosuppression. The wide range of treatments—including surgery alone, neoadjuvant immunotherapy, adjuvant radiation, and systemic therapy—reflects the need for individualized care strategies. The frequent use of immunotherapy, especially in unresectable cases, highlights its growing significance in HR-CSCC management. Combination approaches, such as neoadjuvant immunotherapy with adjuvant radiation, demonstrate the MDTB's ability to coordinate tailored, stage-specific interventions. Most patients were evaluated by multiple specialists, emphasizing the MDTB's efficiency in facilitating comprehensive care. Although limited to a single center, these findings offer real-world evidence of the MDTB's value in reducing care fragmentation and guiding complex clinical decision-making in an evolving treatment landscape.

## Conclusions

Multidisciplinary tumor boards play a pivotal role in the management of high-risk cutaneous squamous cell carcinoma by enabling coordinated, individualized, and stage-specific treatment planning. This approach supports integration of diverse therapeutic modalities—including surgery, immunotherapy, and radiation—particularly for patients with complex or unresectable disease. Our findings support the incorporation of MDTBs as a standard component of care to optimize outcomes and ensure comprehensive evaluation in HR-CSCC. Further studies across diverse practice settings are warranted to validate these findings and refine best practices.

## References

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