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## **Cancer Surveillance for High-Risk Squamous Cell Carcinoma of the Lip at the UVMHC Division of Dermatology**

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### **ABSTRACT**

Skin cancers are an incredibly common malignancy in the United States. A direct relationship between lifetime ultraviolet radiation and subsequent development of skin cancers has been established. Of these, non-melanoma skin cancers, including squamous cell carcinoma and basal cell carcinoma, are the most common. Cutaneous squamous cell carcinomas (cSCCs) located on the lip are concerning given their increased risk of recurrence and metastasis. Given this increased risk of morbidity and mortality, it is essential to continue to monitor patients with a history of these high-risk skin cancers with at least annual full-body skin exams. This study identified approximately 25% of patients without any follow-up for a skin check. This list was then securely provided to office staff to prioritize contacting these patients for follow-up.

### **INTRODUCTION**

Currently, it is estimated that one in five Americans will develop skin cancer throughout their lifetime, with approximately 1 million new skin cancer cases occurring in the United States alone each year (Rigell, 2008). Non-melanoma skin cancers including cutaneous squamous cell carcinoma (cSCC) and basal cell carcinoma comprise the majority of these skin cancers (Clayman et al, 2005). Most cSCCs have a good overall prognosis and are easily cured by surgical excision or other local methods, however, a subset demonstrate propensity for higher risk of morbidity and mortality, including cSCC of the lip (Mullen et al, 2006). One study demonstrated that cSCC of the lip have an elevated risk of metastasis of 14%. This is compared to a baseline risk of approximately 5% for cSCC occurring on other sun-exposed areas (Rowe et. al, 1992). Research has also demonstrated patients diagnosed with a non-melanoma skin cancer have a 40.7% 5-year probability and a 59.6% 10-year probability of developing a subsequent skin

cancer (Wehner et al, 2015). Given these risks, it is important to have continuous follow-up to continue surveillance of high-risk skin cancer patients and to identify future skin cancers that may occur. A guideline published in 2017 for care of cSCC recommends at least yearly in-office screening skin exams by a dermatologist, adjusting this frequency based on individual risk (Alam et al, 2018). Therefore, it is important to identify patients with a history of high-risk cSCC, and ensure they are receiving annual full body skin exams as recommended for thorough surveillance of skin cancer recurrence and/or metastasis. This project aimed to improve cancer surveillance by the UVM Medical Center Division of Dermatology for patients with cSCC of the lip, a high-risk skin cancer, particularly in the setting of delayed follow-up of care in the setting of the novel COVID-19 pandemic.

## **METHODS**

This study was a quality improvement study conducted at the University of Vermont Medical Center Division of Dermatology. This study was conducted in the time of wide-spread office closure in the setting of the novel COVID-19 pandemic. Exclusion criteria included patient death and patients with more than one skin cancer type. A manual chart review was conducted of 244 cSCCs of the lip. Of these, 193 unique patients with cSCC of the lip were included in the study. Patients were further divided into two groups: those who had their SCC site evaluated by a UVM Medical Center dermatology physician or PA within the past year (since 2/20/2019) and those who had not been seen in the past year (since 2/20/2019). These individuals were further classified by those who follow-up primarily with our office for skin checks and those who primarily follow-up with an outside provider or non-dermatologic specialty for skin checks. Following identification of individuals with prior cSCC of the lip who had not received a full-body skin exam at our clinic within the past year, this list was then securely provided to office staff at the University of Vermont Medical Center Dermatology Office to prioritize these high-risk skin cancer patients following the return to clinical duties of dermatologic providers.

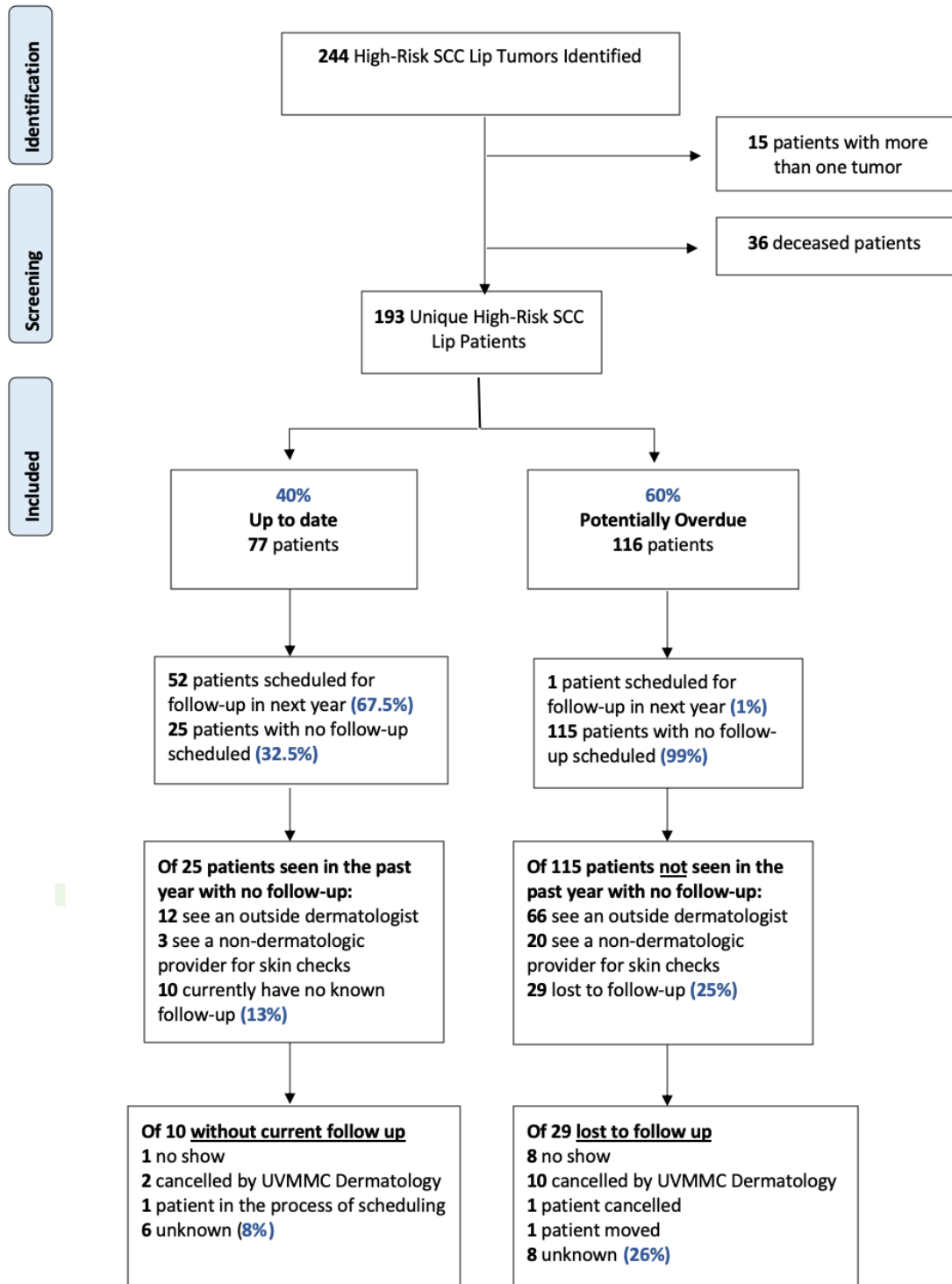
## **RESULTS**

Refer to **figure 1** for further clarification of exclusion and inclusion criteria. Overall, 36 patients were identified as deceased. These patient deaths were unrelated to their skin cancer history. Additionally, 15 patients were identified as having more than one type of skin cancer. Furthermore, 27.5% of patients were identified as having follow-up at UVMC within the next year. This is artificially low as many appointments are scheduled 1-3 months in advance. In addition, 40.5% of patients see an outside dermatologist and 12% see a non-dermatologic provider for skin checks. Many patients are referred to UVMC for definitive surgery through our Mohs Department and then return to the referring provider for continued care, as is standard practice. We identified 25% of patients with no known appropriate follow-up. These records were manually reviewed to determine if the patient appears overdue for cancer surveillance. If this was the case, they were offered a priority follow-up appointment at the time of office re-opening.

## **DISCUSSION**

In the setting of the novel COVID-19 pandemic, offices across the United States experienced closure for the health of providers and patients and to further implement a plan for safe practices. These closures and wide-spread fear of illness is likely to have resulted in delayed presentation to care and/or delayed patient follow-up. Given the need for regular in-person follow-up of patients with high-risk skin cancer, it is prudent to identify patients that were overdue for skin cancer screening. This quality improvement study helped identify patients with high-risk cSCC that were overdue for dermatologic cancer surveillance. We then used cancer risk-stratification to assist office staff in prioritization of high-risk patient scheduling. A limitation of this study was that it did not track patients after initial identification to determine if patients were more likely to follow-up in our clinic following contact by staff. Future studies would be beneficial to determine if this study resulted in improved patient follow-up and outcomes.

**Figure 1.** Patient inclusion and exclusion criteria.



## REFERENCES

- 1) Rigel, D. S. (2008). Cutaneous ultraviolet exposure and its relationship to the development of skin cancer. *Journal of the American Academy of Dermatology*, 58(5), S129-S132.
- 2) Clayman, G. L., Lee, J. J., Holsinger, F. C., Zhou, X., Duvic, M., El-Naggar, A. K., ... & Lippman, S. M. (2005). Mortality risk from squamous cell skin cancer. *Journal of Clinical Oncology*, 23(4), 759-765.
- 3) Mullen, J. T., Feng, L., Xing, Y., Mansfield, P. F., Gershenwald, J. E., Lee, J. E., ... & Cormier, J. N. (2006). Invasive squamous cell carcinoma of the skin: defining a high-risk group. *Annals of surgical oncology*, 13(7), 902-909.
- 4) Rowe, D. E., Carroll, R. J., & Day Jr, C. L. (1992). Prognostic factors for local recurrence, metastasis, and survival rates in squamous cell carcinoma of the skin, ear, and lip: implications for treatment modality selection. *Journal of the American Academy of Dermatology*, 26(6), 976-990.
- 5) Wehner, M.R., Linos, E., Parvataneni, R., Stuart, S.E., Boscardin, W.J., Chren, M.M. (2015). Timing of subsequent new tumors in patients who present with basal cell carcinoma or cutaneous squamous cell carcinoma. *JAMA Dermatology*, 151(4), 382-388.
- 6) Alam, M., Armstrong, A., Baum, C., Bordeaux, J.S., Brown, M., Busam, K.J. & Messina, J. (2018). Guidelines of care for the management of cutaneous squamous cell carcinoma. *Journal of the American Academy of Dermatology*, 78(3), 560-578