

Predictors of Survival Outcomes in Sinonasal Squamous Cell Carcinoma

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Abstract

Importance: Management of sinonasal squamous cell carcinoma (SNSCC) has undergone significant transformation as endoscopic techniques have evolved. Surgical management of locally advanced disease requires thoughtful consideration as achieving negative margins remains paramount. Further clarification of associations between histologic characteristics, treatment modality, and survival may allow for treatment stratification to target higher risk patient populations and improve outcomes.

Objective: Determine survival outcomes of patients with SNSCC with regards to tumor staging, histologic characteristics, and treatment modality.

Design: Retrospective cohort study of patients at Oregon Health & Science University (OHSU: Portland, OR.) diagnosed with SNSCC following cytopathologic review between June, 1996 and October, 2017.

Introduction

Sinonasal malignancies make up 5% of head and neck cancers, with squamous cell carcinoma as the most common histologic subtype. The incidence of sinonasal squamous cell carcinoma (SNSCC) ranges from 35% to 58%, and SNSCC accounts for 60% to 75% of malignancies in the paranasal sinuses.¹ Although overall incidence of SNSCC has been declining over the past 30 years, treatment and prognosis have not improved significantly. Despite improvements in surgery, radiotherapy, and systemic therapy, the 5-year survival rate of patients with SNSCC remains poor, and has been reported to range from 30-50%, with an overall recurrence rate of 31-56%.^{2,3} Additionally, SNSCC tends to invade local structures including the orbits, oral cavity, and skull base, leading to significant functional and aesthetic morbidity following currently available treatment options.

The management of sinonasal squamous cell carcinoma has undergone a significant transformation as endoscopic techniques have evolved. Surgical management of locally advanced disease requires thoughtful consideration as achieving negative margins remains paramount, while also maintaining acceptable functional outcomes and quality of life. Further clarification of associations between histologic characteristics, disease recurrence, and survival may allow for treatment stratification to target higher risk patient populations and improve outcomes. The aim of this study was to evaluate our institution's experience with SNSCC as we transitioned from predominantly open to endoscopic techniques over the past two decades.

Characteristic:	N (%)	Mean (SD)	Range:
Age at SNSCC dx	----	64.3 (12.4)	29 - 95
Female	43 (41.3%)	----	----
Male	61 (58.7%)	----	----
Race: White/Caucasian	96 (92.3%)	----	----
Race: African American	2 (1.9%)	----	----
Tobacco use	70 (67.3%)	----	----
Alcohol (ETOH) use	55 (52.9%)	----	----
Tumor (T) stage at dx:			
T-1	19 (18.3%)	----	----
T-2	9 (8.7%)	----	----
T-3	21 (20.2%)	----	----
T-4a	49 (47.1%)	----	----
T-4b	6 (5.8%)	----	----
Lymph Node (N) stage at dx:			
N-0	96 (92%)	----	----
N-1	3 (3%)	----	----
N-2a	1 (1%)	----	----
N-2b	3 (3%)	----	----
N-2c	1 (1%)	----	----
Metastasis (M) stage at dx:			
M-0	103 (99%)	----	----
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Overall Anatomic Stage at dx:			
Stage-1	18 (17%)	----	----
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