Delay in treatment is not associated with worse outcomes in sinonasal squamous cell carcinoma

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Background

- Sinonasal squamous cell carcinoma (SCC) are frequently treated at tertiary care centers due to the rarity and complexity of the cases and often require multiple modalities of imaging and specialty care evaluation prior to surgery.
- Treatment delays may potentially occur at this stage of the care continuum.
- Timely management could be influenced by various socioeconomic factors and could impact patient outcomes.
- We aimed to characterize the diagnosis to treatment interval and its impact on the presentation and outcomes of sinonasal SCC.

Methods

This was a multi-institutional retrospective analysis of patients who underwent definitive treatment with endoscopic resection of primary sinonasal SCC during a 13-year period from 2010 to 2022. A retrospective chart review was conducted to obtain data on patient demographics, tumor presentation, and treatment. Community level socioeconomic factor was assessed with the area deprivation index (ADI), which utilizes census-based metrics to assign scores to neighborhoods based on income, housing quality, educational attainment, and employment.

The primary outcome was the time interval from diagnosis (obtained from pathology report) to definitive surgery, and this was further categorized as less than 30 days versus greater than or equals to 30 days. Differences in patient, tumor, and treatment variables were compared with the Pearson's Chi-square test if categorical and the Student's t test if continuous. Differences in the Kaplan Meier overall survival estimates were assessed with the log-rank test.

Results

- 82 patients with primary SCC of the sinonasal cavity underwent definitive surgery.
- The mean diagnosis to surgery interval was 31.5 (SD 22.1) days.
- A diagnosis to surgery interval of >30 days was not associated with differences in T staging (p=0.312) or extrasinus involvement at presentation (p=0.254).

Results

- A diagnosis to surgery interval of >30 days was not associated with differences in the approach to surgery (p=0.592), adjuvant treatment rate (p=0.051), recurrence rate (p=0.289), or mean overall survival (p=0.315).

	Diagnosis to surgery interval >30 days N= 36 (43.9%)	Diagnosis to surgery interval <30 days N= 46 (56.1%)	Total N= 82	P value
Age, mean (SD)	61.5 (11.6)	62.6 (11.8)	62.5 (12.0)	0.672
Male gender, n (%)	23 (63.9%)	30 (65.2%)	53 (64.6%)	0.901
Race, n (%)				0.220
White	32 (88.9%)	35 (76.1%)	67 (81.7%)	
Black	3 (8.3%)	5 (10.9%)	8 (9.8%)	
Others/unknown	1 (2.8%)	6 (13.0%)	7 (8.5%)	
Private Insurance, n (%)				0.761
Yes	16 (44.4%)	22 (47.8%)	38 (46.3%)	
No	20 (55.6%)	24 (52.2%)	44 (53.7%)	
ADI, mean (SD)	37.5 (4.0)	44.4 (26.3)	41.0 (25.2)	0.255
T staging, n (%)				0.312
T1/2	11 (45.8%)	9 (32.1%)	20 (38.5%)	
T3/4	13 (54.2%)	19 (67.9%)	32 (61.5%)	
Extrasinus involvement	15 (41.7%)	25 (54.3%)	40 (48.8%)	0.254
Approach to surgery, n (%)				0.592
Endoscopic only	19 (52.8%)	27 (58.7%)	46 (56.1%)	
Combined/open	17 (47.2%)	19 (41.3%)	36 (43.9%)	
Adjuvant treatment, n (%)	23 (63.9%)	37 (80.4%)	60 (73.2%)	0.051
Recurrence, n (%)	9 (25.0%)	7 (15.6%)	16 (19.8%)	0.289
Mean overall survival, months (SD)	88.2 (6.2)	125.4 (11.9)	131.0 (8.7)	0.315

Conclusions

- A delay in treatment was not associated with individual or community-level socioeconomic factors, nor associated with higher stage at presentation, combined/open surgical approaches, or worse overall survival among the cases of sinonasal SCC that were treated with surgery.
- There remains a need to understand the acceptable diagnosis to treatment interval as a quality measure.

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