

Abstract

Objectives: Analyze the clinical trends, pathologic features, management options and survival trends for patients with oropharyngeal adenoid cystic carcinoma.

Study design: Retrospective analysis of the United States National Cancer Institute's Surveillance, Epidemiology and End-Results (SEER) database.

Methods: Using the most up to date, November 2014 submission of the SEER database in addition to the SEER 18 data files a cohort was created of adenoid cystic oropharyngeal cancers from 2004-2014. Demographic factors, management and outcomes were analyzed. In addition 5 year disease free survival was calculated.

Results: 192 patients were identified, of which 45.3% were male and female 54.7% were female. 79.2% of patients were white and 13.5% were black. The mean age was 59.4 years. The most common sites of involvement were base of tongue at 61.5% followed by soft palate at 29.7%. 10.9% of patients had nodal disease at the time of diagnosis and 12.0% of patients had distant metastasis. The most common treatment regimen was surgery followed by radiation at 58.3% followed by radiation only at 16.7%. There was a significant difference in survival by treatment, with surgery only having the highest mean survival followed by surgery and radiation $p=0.03$.

Conclusion: Oropharyngeal adenoid cystic carcinoma is a rare tumor. Surgery or surgery followed by radiation had significantly improved survival compared to other treatments.

Introduction

Adenoid cystic carcinoma accounts for 2-3% of head and neck malignancies and can occur in both major and minor salivary glands. Adenoid cystic carcinoma in the oropharynx is most commonly found in the base of tongue. Adenoid cystic carcinoma is a difficult cancer to treat due to its neurotropism, propensity for distant metastasis and recurrences. Due to perineural invasion and distant metastasis this disease portends a poor long term prognosis. There have been few studies analyzing the epidemiology and long term survival of patients with adenoid cystic carcinoma. The aim of this study was to describe the epidemiology of patients with adenoid cystic carcinoma and determine which factors are predictive of survival.

Methods

Using the most up to date, November 2014 submission of the SEER database in addition to the SEER 18 data files a cohort was created with patients ranging from 2004-2014. The SEER database represents approximately 28% of the American people. The database was searched for all patients with histologic diagnosis of 8200/adenoid cystic carcinoma limited to the subsites of the oropharynx including the base of tongue, tonsils, soft palate and overlapping sites. Demographic factors, management and outcomes were analyzed. Management was divided into surgery, surgery followed by radiation, radiation and no treatment. In addition 5 year disease free survival was calculated.

Results

192 patients were identified, of which 45.3% were male and female 54.7% were female. 79.2% of patients were white and 13.5% were black. The mean age was 59.4 years. The most common sites of involvement were base of tongue at 61.5% followed by soft palate at 29.7%. 10.9% of patients had nodal disease at the time of diagnosis and 12.0% of patients had distant metastasis. The most common treatment regimen was surgery followed by radiation at 58.3% followed by radiation only at 16.7%. There was a significant difference in survival by treatment, with surgery only having the highest mean survival followed by surgery and radiation $p=0.03$. The 5 year disease specific survival was 90.9% for surgery only, 84.1% for surgery followed by radiation and 36.8% for radiation only. Soft palate subsite had the highest disease specific survival at 89.3%.

		Number	Percentage (%)
Gender	Male	87	45.3
	Female	105	54.7
Race	White	152	79.2
	Black	26	13.5
	Asian	10	5.2
	Unknown	4	2.1
Age (Yrs)	Range	25-80	
	Median	60	31.3
	Mean	59.4	30.9

Table 1: Demographics of patients with adenoid cystic carcinoma

		Number	Percentage (%)
Location	Tonsil	13	6.8
	Base of tongue	118	61.5
	Soft palate	57	29.7
	Overlapping	2	1.0
	Unspecified	2	1.0
Tumor grade	Grade I	17	8.9
	Grade II	36	18.8
	Grade III	8	4.2
	Grade IV	5	2.6
	Unknown	126	65.6

Table 2: Tumor characteristics

Treatment	Number	Percentage
Radiation	32	16.7
Surgery	30	15.6
Surgery then radiation	112	58.3
None	18	9.4

Table 3: Summary of treatment received

Discussion

Oropharyngeal adenoid cystic carcinoma is a rare disease that is difficult to treat. This is the first SEER database study to examine adenoid cystic carcinoma in the oropharynx. Surgery or surgery followed by radiation treatment had significantly higher survival rates. Surgery had the highest disease specific survival at 90.9%. This information suggests the importance of surgery as the primary modality for management of adenoid cystic carcinoma with radiation being used as an adjuvant treatment when indicated. Adenoid cystic carcinoma is more common in older females which concurs with other findings in the literature.

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