Primary Pulmonary Carcinoid Tumors: A Single Institution Retrospective Review: Topic: Medical Oncology

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Published In/Presented At

Adediran, S. Friedman, E. L., Nair, R. (2017, September 14-16). PS02.27 *Primary Pulmonary Carcinoid Tumors: A Single Institution Retrospective Review*. Poster Presented at: The 2017 Chicago Multidisciplinary Symposium in Thoracic Oncology, Chicago, Illiniois.

Primary Pulmonary Carcinoid Tumors: A Single Institution Retrospective Review

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BACKGROUND

Pulmonary carcinoid tumors account for 1–2% of all invasive lung malignancies. They generally occur between the fourth and the sixth decade of life. Most pulmonary carcinoid tumors are well differentiated, have < 2 mitoses/10 HPF and < 3% Ki67 index (typical carcinoid). A small percentage are aggressive, have 2-20 mitoses/10 HPF and 3-20% Ki67 index (atypical carcinoid). Because of their rarity, there are very few large studies on pulmonary carcinoid and most of them are retrospective in nature. We present a retrospective analysis of the clinico-pathologic features of patients diagnosed with pulmonary carcinoids tumor at our institution over a ten year period.

METHODS

After approval by the institutional review board, we identify all patients with pulmonary carcinoid tumors diagnosed or treated at the Lehigh Valley Hospital between 2005 and 2015. We performed a retrospective review of the records of all biopsy-confirmed patients with pulmonary carcinoid tumors. Collected data included clinical presentation, demographics, pathology, treatment modalities, pattern of metastases and recurrence. All analyses were conducted using SAS version 9.3. Kaplan-Meier method was used for overall survival calculation.

RESULTS

Patient Characteristics

Characteristics	
Gender	
Male	69%
Female	31%
Median age	63.5 years (IQR 52, 73)
Tumor Types	
Typical carcinoid	90%
Atypical carcinoid	10%
Tobacco use	
Smoke(d)	44%
Never smoked	56%

Stage of Cancer at Time of Diagnosis Based on TNM Staging Criteria

Stage	Frequency (%)
I	75
II	5
III	4
IV	6
Multifocal disease	10

Presenting Symptoms

Symptoms	Frequency (%)
Cough	22
Dyspnea	17
Chest pain	11
Pneumonia	9
Hemoptysis	6
Incidental finding	56

Treatment Modalities

90% of Patients Underwent Definitive Invasive Intervention

Intervention/Extent of Resection	Frequency (%)
Lobectomy	62
Wedge resection	20
Segmental resection	4
Pneumonectomy	4
Endobronchial ablation	2

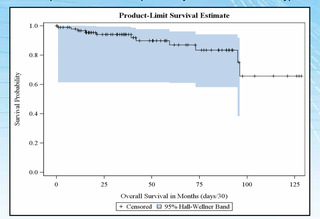
Treatments of the 6 Patients with Stage IV Disease

Patients	Type of Carcinoid	Site of Metastases	Surgical Intervention	Chemotherapy	Outcome
Patient A	Typical	Bilateral lungs	Endobronchial ablation	None	Indolent disease, lived >5 years from diagnosis
Patient B	Typical	Bilateral lungs	None	None	Indolent disease, Aliave >1 yr after diagnosis
Patient C	Atypical	Bone	None	6 cycles of cisplatin and etoposide followed by 6300 cGy RT to residual tumor in the Mediastinum	Alive 4 years after treatment
Patient D	Typical	Bone	None	Unknown agents followed by palliation RT to the bone	Died <2 years after diagnosis
Patient E	Atypical	Liver, Lung, Bone, Brain	None	1st line: cisplatin+etoposide. PCI 2nd: carboplatin+paclitaxel, 3rd: 1 cycle of gemcitabine GK	Died 15 months after diagnosis
Patient F	Typical	Lungs	Wedge resection of main tumor	None	Alive 3 years after diagnosis

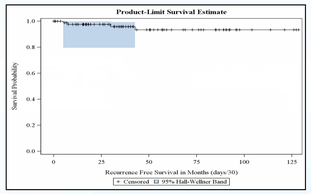
Two other patients received chemotherapy: one was misdiagnosed small cell lung carcinoma and the other was s tage IIIA pulmonary carcinoid tumor.

Survival Results

11 of 96 patients died during the study period; 9 of them of causes other than pulmonary carcinoid. The two patients that died of pulmonary carcinoid both had atypical histology.



4 patients had disease recurrence 2 of whom died during the study period.



CONCLUSIONS

This study though retrospective in nature nevertheless add to the clinico-pathologic features known of pulmonary carcinoid tumor. It is more common in women and occur mostly in the 5th to 6th decades of life. While most tumors are incidental findings on imaging, the common presenting symptoms are cough, dyspnea, chest pain, pneumonia and hemoptysis. Surgery is the mainstay of treatment. Chemotherapy and radiation therapy are rarely used except in the metastatic setting. Keeping with the indolent nature of the disease, most patients that died during the study period died of causes other than pulmonary carcinoid, and disease recurrence was rare.

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