ISSN: 2157-2518
Journal of Carcinogenesis & Mutagenesis

OPEN ACCESS Freely available online

Perspective

Carcinoid Lung Tumors: Diagnosis and Treatment

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DESCRIPTION

Lung carcinoid tumours are a rare yet fascinating subtype of pulmonary neoplasm. These tumours were formerly categorised alongside benign or less dangerous malignant lung tumours. They were classified as bronchial adenomas as a group of neoplasms.

Many people still refer to these tumours with this awful title, which gives the idea that they are benign neoplasms. However, subsequent research has shown that carcinoid lung tumours represent the least aggressive form of a spectrum of bronchopulmonary Neuroendocrine Tumours (NETs), which also contains several other forms of intermediately aggressive cancers, including atypical carcinoid.

The first recorded description of what was probably a bronchial carcinoid tumour was made by Laennec in 1831 when he described an intrabronchial mass. In 1882, Mueller gave a thorough account of the first so-called bronchial adenoma. Given that the patient was young and had experienced cough with hemoptysis for eight years, it was most likely a carcinoid tumour.

Chevalier Jackson removed a large intrabronchial malignancy by bronchoscopy in 1914. The tumour was given the pathologic diagnosis of endothelioma at the time, but an adenoma was discovered following further testing a few years later. C L Jackson reported on 12 and 20 cases of bronchial adenomas, respectively, in 1937 and again in 1945. None of these, he claimed, showed any indications of metastasis or other malignant activity. However, other specialists started to doubt the tumours' apparent benignity.

Bronchial adenomas were categorised as grade 1 cancers in 1944 by Alexander and Weller, who also noted that they had seen metastases in two of 13 cases. Eloesser carried out the first bronchotomy for the removal of a bronchial tumour in 1939. At the time, the tumour was referred to as a benign cancer; however it was most likely a carcinoid or cylindroma.

Arrigoni et al. described a subpopulation of aggressively behaving lung carcinoid tumours in 1972 that exhibited an abnormal histologic appearance. They designated this type of tumours as atypical carcinoid and noted that the tumours frequently had a bigger size at presentation and that up to 70% of them had distant metastases. The existence of a spectrum of neuroendocrine tumours of the bronchopulmonary tree has gained more acceptances after the publication of this study.

The most well-differentiated and least physiologically aggressive kind of pulmonary NETs are typical carcinoid tumours of the lung. These tumours typically develop slowly and seldom spread to other organs.

The histology and clinical features of atypical carcinoid tumours are more aggressive. They have a worse prognosis because they metastasis far more quickly than conventional carcinoid tumours do.

Very large bronchopulmonary carcinoid tumours or the development of metastatic disease have both been linked to carcinoid syndrome. It is observed far less frequently in connection with carcinoids of pulmonary origin compared to those coming from the GI tract. (Intestinal Carcinoid Tumor for further details.)

Carcinoid tumours of the lung are less frequently associated with endocrine syndromes than small cell carcinomas are, but both typical and atypical pulmonary carcinoid tumours have been linked to various endocrine problems.

Treatment for pulmonary carcinoid tumours should be based on their malignancy. The principal treatment for a lung carcinoid tumour is not now available in medicine. All lung carcinoid tumours without signs of distant metastatic illness should be entirely removed as long as there are no contraindications to surgery because surgical resection is the only treatment known to be curative. Any type of surgical therapy should aim for total excision as its main objective. There should be a lymph node dissection after the resection.

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Received: 25-Nov-2022, Manuscript No. JCM-23-19542; **Editor assigned:** 28-Nov-2022, Pre QC No. JCM-23-19542; **Reviewed:** 12-Dec-2022, QC No. JCM-23-19542; **Revised:** 19-Dec-2022, Manuscript No. JCM-23-19542; **Published:** 26-Dec-2022, DOI: 10.35248/2157-2518.22.S35.003

Citation: Nakamura T (2022) Carcinoid Lung Tumors: Diagnosis and Treatment. J Carcinog Mutagen. S35:003

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ANATOMY

The following are some of the gross anatomic characteristics of carcinoid tumours:

- Most frequently, tumours are located in the cartilaginous part of the tracheobronchial tree.
- Typically, tumours are soft lumps that are still covered in the bronchial epithelium.
- Tumors have a lot of blood vessels and are pink to purple in hue.

The bronchus is typically linked to the tumour by a broad base, but occasionally the tumour is polypoid and has a distinct stalk.

Small foci of atypical hyperplastic bronchial epithelium in nearby locations known as tumorlets may be present in tumours and may indicate a more aggressive tumour with a worse prognosis. These tumorlets may be indicative of localised metastatic disease or another entirely different histologic abnormality.