



A Case Report on Carcinoma Lung with Changing Histology Over the Period of Time.

Dr. Anukul Dutta *¹, Dr Pranitha SL², Dr. Geeta SN³

1,2,3. Dept. of Radiation Oncology, Vydehi Institute of Medical Sciences, Bangalore, India.

Corresponding Author: Dr. Anukul Dutta, Dept. of Radiation Oncology, Vydehi Institute of Medical Sciences, Bangalore, India.

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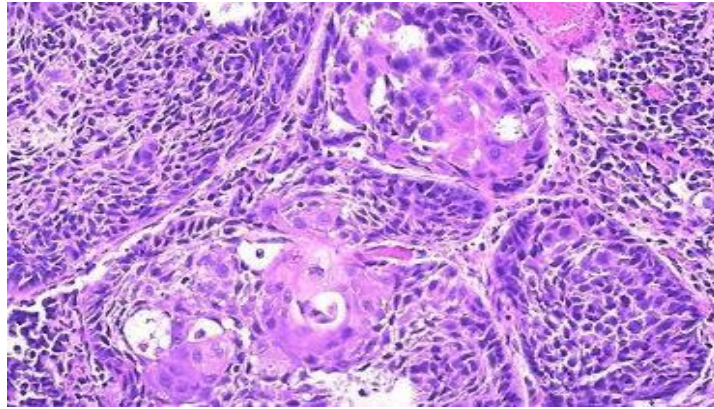
Abstract

Lung cancer is the leading cause of cancer death in the World. Histopathology continues to play an essential role in prognosis and choosing appropriate treatment. Largely determined by morphology, primary lung cancers are histologically classified into small cell lung cancers (SCLC) and non-small cell lung cancers (NSCLC), with the latter including adenocarcinoma, squamous cell carcinoma, and large-cell neuroendocrine carcinoma as the main histologic subtypes.

We present a case of 65-year-old male patient who is a known case of treated Squamous cell carcinoma of the left lung with concurrent CRT 60Gy in 30# with 4 cycles of Etoposide and Cisplatin in 2013. Patient was on regular follow-up until 2017. Then he developed Tuberculosis and took ATT for 6 months. Patient was apparently alright 11 months back then he noticed blood streaked sputum associated with cough which is insidious in onset, gradually progressive in nature, for which he was evaluated and got diagnosed with Carcinoma of Right lung Stage IIIA (Adenocarcinoma) S/P 6 cycles of Paclitaxel and Carboplatin, last on 23.01.23

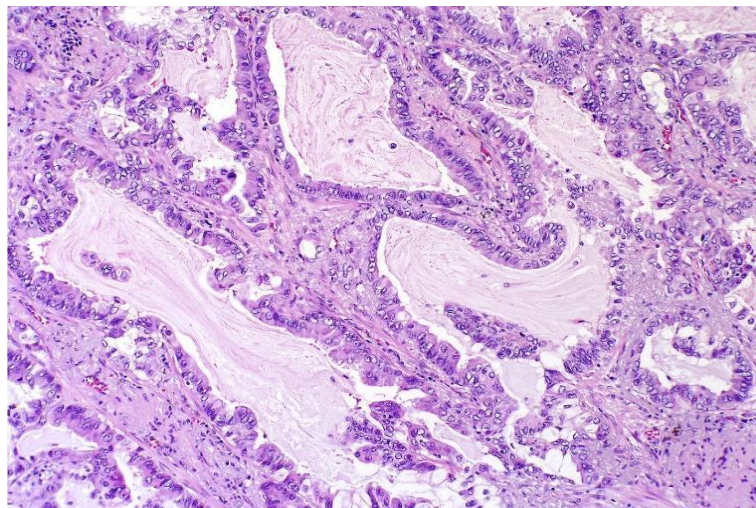
Introduction

The risk for development of a second primary lung cancer (SPLC) after treatment of an initial primary lung cancer (IPLC) is around 1% to 2% per patient. SPLC is defined as a new primary lung cancer that develops after curative intent therapy for the IPLC. The incidence of SPLC has been estimated at approximately 1% to 2% per patient per year.² The development of a SPLC has been associated with an overall worse survival even after treatment.



Biopsy Image 1: Squamous cell carcinoma microscopic appearance with nests of polygonal cells with pink cytoplasm and distinct cell border.

The predominant histologic types of the IPLCs were adenocarcinoma and squamous cell carcinoma (58% of all IPLCs). This proportion was higher for the SPLCs with adenocarcinoma and squamous cell carcinomas, which comprised 78% of all cases. IPLC adenocarcinomas most frequently had SPLC



Biopsy image 2: Large glands filled with mucin characteristic of the mucinous adenocarcinoma subtype.

Adenocarcinomas (62%). IPLC squamous cell carcinomas and SCLCs most often presented with SPLC squamous cell carcinomas (45 and 41%, respectively). Only 8% of SPLCs were SCLCs (Tables 3 and 4), which was higher in incidence than the 5% of IPLCs that were SCLCs. Most patients in whom a second primary developed (55%) initially had a localized IPLC, but a small fraction of patients (7%) had distant

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stage IPLCs (Table 1). Most SPLCs (56%) presented at advanced stages (regional or distant) or were of an unknown stage, whereas only 44% of SPLCs had localized disease.

Distribution of SPLC Histologic Type by IPLC Histologic Type in Patients with a History of an IPLC

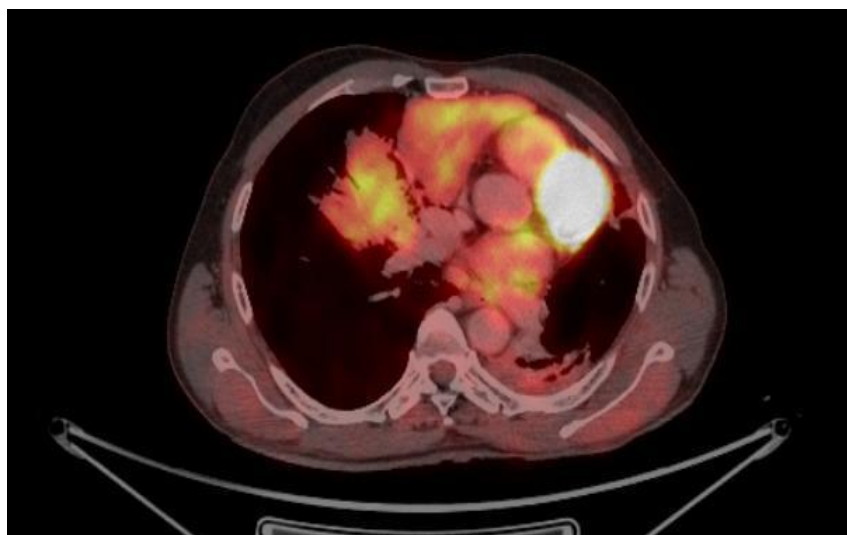
IPLC histologic type	SPLC Histologic Type								Total
	Squamous cell		SCLC		Adenocarcinoma		Other NSCLC		
	N	Row %	N	Row %	N	Row %	N	Row %	
Squamous cell	575	45%	156	12%	242	19%	292	23%	1265
SCLC	94	41%	26	11%	47	21%	62	27%	229
Adenocarcinoma	313	13%	120	5%	1446	62%	456	20%	2335
Other NSCLC	197	25%	80	10%	284	36%	232	29%	793
Total	1179	26%	382	8%	2019	44%	1042	23%	4622

SPLC, second primary lung cancer; IPLC, initial primary lung cancer.

A Case Report

A 65-year-old male patient, presented with complaints Cough with blood tinged sputum since 5 months, which was insidious in onset, gradually progressive in nature.

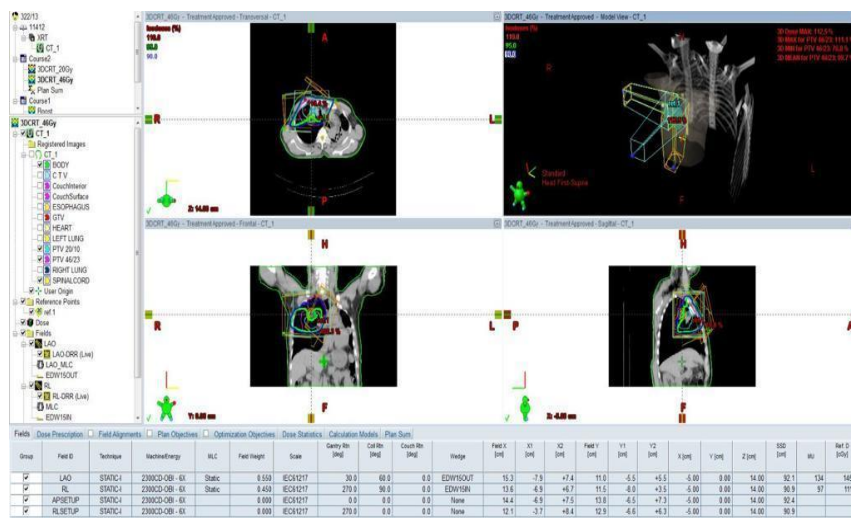
He was a chronic smoker until his first cancer diagnosis and treatment and after that had quit smoking, also presently no history of smoking, had been reported in our hospital. On chest auscultation there was decreased air entry in the left side, and right air entry was normal. Rest of the clinical examination was normal. Patient underwent F18 FDG PET CT which showed a large area of consolidation involving the right lung upper lobe anterior segment and adjacent middle lobe with low grade heterogeneous metabolic activity, with mildly enlarged mediastinal lymph nodes, and recommended for clinical correlation and CT guided biopsy. For further evaluation, a biopsy from Right lung depicted the picture of Adenocarcinoma possibly of invasive mucinous adenocarcinoma. Thus being a rare condition of occurrence of different.



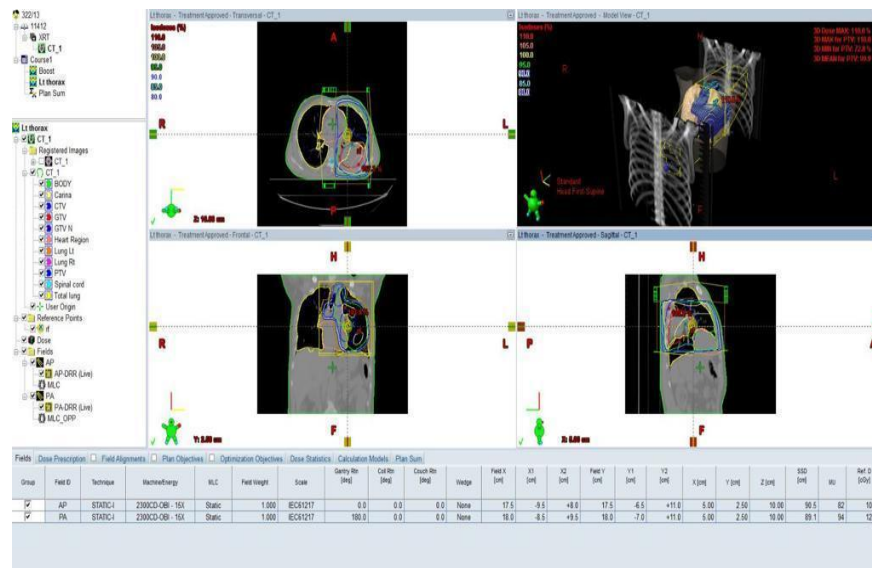
Picture 1: FDG-18 Pet Showing Consolidation Of Right Lung Middle Lobe With Heterogenous Metabolic Activity.

Treatment Details

Thus the treatment was planned with Targeted therapy giving Pembrolizumab and Carboplatin based on EGFR, ALK positivity. Further due to raising pattern of Creatinine, the plan was changed to Paclitaxel and Carboplatin. Currently patient on Radiation therapy as part sequential CTRT regimen for dose of 66Gy in 33#.



Picture 2: Treatment by radiation therapy with 3DCRT 60gy in 30# of left lung(2013).



Picture 3: Treatment By Radiation Therapy With 3DCRT 66gy In 33# Of Right Lung (2023) .

Results

Patient was given systemic therapy as Chemotherapy and immunotherapy options , also was managed symptomatically for the cough and hemoptysis episodes and other complaints.

Receiving Pembrolizumab and Carboplatin had led to increase in Creatinine thus planned to Paclitaxel and Carboplatin.

Further after patient responded well, also symptoms were improved, cough subsided and he was doing well, thus with haemodynamically stable patient was discharged with every 3weeks follow up for continuing chemotherapy and also to discuss if any new complaints were present. Regular blood reports were done to check on liver and kidney functions and also hemoglobin levels. Currently patient on radiation therapy treatment as part of sequential regimen.

Discussion

In recent years, with the continuous advancement of medical technology and the improvement of patient compliance, many cancer patients have been diagnosed with new primary malignant tumors in their lungs. In the past, a large number of studies have focused on single primary lung cancer or multiple primary lung cancer (MPLC), but there are few studies on lung cancer patients with other primary malignancies. To

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date, little is known about the regularity of the time interval between two primary malignancies and the prognosis of dual primary cancer patients with LCSPM.

Abbreviations

MPC, multiple primary cancers;

MPLC, multiple primary lung cancers;

LCSPM, lung cancer as a second primary malignancy; FPC.

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