



## A RARE CASE OF NON-SMALL CELL LUNG CARCINOMA IN YOUNG BOY: A CASE STUDY

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### ABSTRACT

We report a case of a 14-years-old non-smoker male with no family history of malignancy, and no other risk factors like occupational or environmental exposure nor aspiration who presented with a foreign body like lesion in the right lower bronchus associated in computed tomographic scan with no clear evidence on bronchoscopy. Histopathologically, it was proven to be non-small cell lung carcinoma (NSCLC)-subtype bronchogenic adenocarcinoma. This case warrants further analysis regarding the changing trend of higher incidence of adenocarcinoma in young patients, and the young patients appear to develop lung cancer at an earlier age.

**Key words:** NSCLC, Hemoptysis, CT scan, Adenocarcinoma, Bronchoscopy

## INTRODUCTION

Lung cancer is a leading cause of cancer deaths in developed countries and is also rising at alarming rates in developing countries. This is the single most devastating cause of cancer-related deaths with approximately 1.5 million cases worldwide. Non-small cell lung cancer (NSCLC) is the most common type of lung cancer. Squamous cell carcinoma, adenocarcinoma, and large cell carcinoma are all subtypes of NSCLC. Young patients are very likely to be symptomatic, have adenocarcinoma, and present with advanced disease. There is a changing trend of higher incidence of adenocarcinoma in young patients. Amongst these, female patients appear to develop lung cancer at an earlier age. In addition to smoking, occupational exposure to carcinogens, indoor air pollution, dietary factors and a family history of cancer have recently been implicated in causation of lung cancer. We report a case of a 14-year-old non-smoker male patient with NSCLC, with a hyperdense lesion involving the right lower bronchus with atypical mitotic figures and gland formation in the absence of any known aetiological risk factors.

### Case History:

A 14 years old boy from Hubei province , who is non smoker and denies history of alcohol consumption, Presented with history of hemoptysis which was fresh in colour having amount nearly 30ml per day from last 6 months . It was on and off in nature but denies history of massive hemoptysis or nasal pricking. It was followed by shortness of breathe occasionally ,however , he denies history of chest pain or cough. There is no history of orthopnea or PND. He also denies the history of fever or the contact with the tubercular patient . He also denies the history of weight loss in last 6 month with normal appetite. There is no family history of malignancy nor tuberculosis.

O/E: There is neither evidence of ill looking face nor presence of enlarged lymph node. Bilateral lung field examination was evident of equal expansion with normal vesicular breath sound , no adventitia was heard. Cardiovascular examination revealed presence of S1 and S2 sound with no evidence of murmur. Abdominal examination was normal with presence of bowel sound. Central nervous system and Cranial nerves were absolutely intact.

## DISCUSSION

Soon after he was presented in the OPD, he was assessed thoroughly and planned for admission. He was admitted and all the relevant investigations were performed. The blood parameters were within normal range. PPD skin test , Quantiferon TB gold, Sputum AFB three samples as well as Serum ADA were all turned out to be negative respectively for diagnosis of Pulmonary Tuberculosis. Then CT scan of the chest was performed and it showed some clear hyperdense area w( with size of 7.2 \*7.1mm) in the right lower lobe bronchus suggestive of obstruction vs mass, but there was no evidence of collapse of the lung( shown in fig

1&2) as well as patient denies any history of choking. Then he was planned for Flexible routine bronchoscopy and performed. However, there was no evidence of Obstruction or mass on the lower lobe but there was fresh bleed (oozing) and slightly hypertrophied area seen via flexible bronchoscope. So, biopsy sample was taken and sent to the lab. The biopsy report showed the evidence of adenocarcinoma of the lung. There was no evidence of metastasis, hence, he was planned for pneumonectomy and performed. After pneumonectomy, he is comfortable with stable vital signs. He was discharged successfully. Now, he is under closed monitoring and regular follow up in the hospital.



**Figure 1 and 2:** Showing the lesion in the right lower bronchus

## CONCLUSION

The occurrence of lung cancer among young adults is uncommon. This case reflects the possibility of lung cancer without typical sign and symptoms. It was diagnosed as a case of lung adenocarcinoma via histopathophysiology reports from bronchoscopic aspiration. The case of lung adenocarcinoma is very rare especially in male population, however, this case has raised the point that the possibility of NSCLC in very young population couldn't be taken lightly. So, histopathology report will be the best modality to diagnose it which will help to cure the patient. This case puts the light on the occurrence of NSCLC in young male who is non-smoker and not associated with occupational exposure which is found to be very rare.

## REFERENCES

1. Behera D, Balamugesh T. Lung cancer in India. *Indian J Chest Dis Allied Sci* 2004; 46: 269-81.
2. Landis SH, Murray T, Bolden S, Wingo PA. Cancer statistics, 1998. *CA Cancer J Clin* 1998; 48: 6-29.
3. Fu JB, Kau TY, Severson RK, Kalemkerian GP. Lung cancer in women; analysis of the national surveillance, epidemiology, and end results database. *Chest* 2005; 127: 768-77.
4. Park BJ, Louie O, Altarki N. Staging and the surgical management of lung cancer. *Radiol Clin North Am* 2000; 38: 545-61.
5. Nugent WC, Edney MT, Hammerness PG, Dain BJ, Maurer LH, Rigas JR. Non-small cell lung cancer at the extremes of age: impact on diagnosis and treatment. *Ann Thorac Surg* 1997; 63: 193-7.
6. Kuo CW, Chen YM, Chao JY, Tsai CM, Perng RP. Non-small cell lung cancer in very young and very old patients. *Chest* 2000; 117: 354-7.
7. Lienert T, Serke M, Schonfeld N, Loddenkemper R. Lung cancer in young females. *Eur Respir J* 2000; 16: 986-90.
8. Gadgeel SM, Ramalingam S, Cummings G, Kraut MJ, Wozniak AJ, Gaspar LE, et al. Lung cancer in patients <50 years of age: the experience of an academic multidisciplinary program. *Chest* 1999; 115: 1232-6.