

Lung Cancer on Left Tracheal Bronchus in A Patient with Situs Inversus Totalis

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Abbreviations: TB: Tracheal Bronchus; SIT: Situs Inversus Totalis

Clinical Case

This article presents the case of a non-small cell lung cancer on a left tracheal bronchus (TB) in a 56 year old man with visceral total inversion. To our knowledge this case is the first report of a patient with the three circumstances at the same time. Finally, we discuss a review of cases found in worldwide literature.

Case Details

A 56 year old man, long-term smoker (54 pack-years) with a personal history of high blood pressure, spontaneous pneumothorax at the age of 14 and a congenital visceral situs inversus with transposition of bowels. His only treatment was valsartan 80mg once a day. He was referred because of a two month involuntary weight loss (approximately 12kg), edema and facial congestion. A thorax scan was taken which showed a heterogeneous neoplastic mass in the left apex of approximately 8x10x9cm which was dependent on a left tracheal bronchus (Figure 1A), with mediastinal and vascular invasion of superior vena cava, left upper pulmonary vein and artery.

After these findings a flexible bronchoscopy was performed that showed a situs inversus of the patient's airways with a left tracheal bronchus in the left distal wall of the trachea which was completely obstructed by an endobronchial mass (Figure 1B). Endobronchial brushings and biopsies revealed a poorly differentiated non-small cell carcinoma compatible with lung adenocarcinoma. Genetic testing revealed positive EGFR mutation. The final stage was IV and after multidisciplinary discussion the

patient received treatment with radiotherapy and chemotherapy until he died two years later due to tumoral progression.

Discussion

The presence of TB usually is an incidental finding on a bronchoscopy or in a CT scan and it does not require any specific treatment. Its incidence varies from 0.5 to 1%. The defect in the embryogenesis that results in this disorder is still uncertain. These are also known as "pig bronchus" due to the fact that it is common to find them in these animals. In humans this normally has a right prevalence and usually corresponds to the apical segment of the right upper lobe although sometimes can correspond to a real supernumerary bronchus. This bronchus can end in lung tissue or in a blind pouch. They are usually found within 2cm of the main carina but can be located in any position between the cricoid cartilage and the main carina. It can also be bilateral or double at presentation. Occasionally, they can produce atelectasis, hemoptysis and pneumonia [1], but the presence of lung cancer within this anomaly is very uncommon [2-4].

On the other hand, situs inversus totalis (SIT) is a condition in which the body organs are located in a mirror image from their normal position. This occurs in one between 10.000 and their life expectancy is normal [5]. The clinical association of SIT and lung cancer in the same patient has been described previously [6,7] but there are very few reports of the coincidence of SIT with TB [8]. In our patient the SIT was already diagnosed, and the left TB was discovered in the CT scan and was confirmed during the

bronchoscopy. Knowledge of these congenital variations can be of interest in the case of surgery, intubation and bronchoscopy. This case presents a left TB, a SIT and lung cancer in this TB at the same

time. Reviewing scientific literature, we have not found any other patient with the same conditions, and for this reason we find it of high interest to publish.

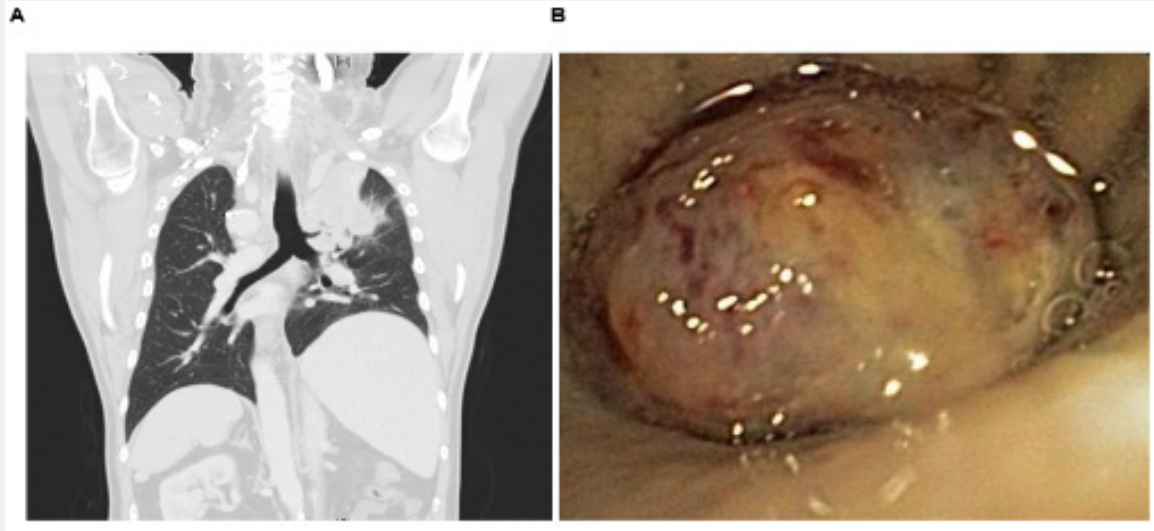


Figure 1A and 1B: A) Computed tomography scan showing situs inversus, left tracheal bronchus and lung cancer. B) Left tracheal bronchus with endobronchial mass.

References

1. Kumagai Y, Jinguji M, Tanaka D, Masayuki N (2006) An adult case of bilateral true tracheal bronchi associated with hemoptysis. *J Thorac Imaging* 21(4): 293-295.
2. Sindhwani G, Rawat J, Gupta M, Smita C (2012) Lung cancer in true tracheal bronchus: a rare coincidence. *J Bronchology Interv Pulmonol* 19(4): 340-342.
3. Monteiro R, Gonsalves I, Parente B, Joao MS (2012) Tracheal Bronchus with metachronous tumor. *J Bronchology Interv Pulmonol* 19(4): 343-344.
4. Nicolaou N, Du Plessis A (2015) Squamous carcinoma arising from a true tracheal bronchus: Management and case report. *Int J Surg Case Rep* 6C: 256-258.
5. Osarenkhoe JO (2022) Situs Inversus: A review of 191 Published Cases. *Open Journal of Internal Medicine* 12(2): 85-94.
6. Kodama K, Doi O, Tatsuta M (1990) Situs inversus totalis and lung cancer. *Chest* 97(5): 1274-1275.
7. Thompson JR (1963) Bronchogenic carcinoma complicating situs inversus totalis. Report of a case. *Dis Chest* 44: 317-319.
8. Gubbawy H, Chemaissani A, Zeidler D (1984) Left tracheal bronchus in situs inversus totalis. *Prax Klin Pneumol* 38(6): 239-241.



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