

Case Report

Successful Flexible Bronchoscopic Management of Dynamic Central Airway Obstruction by a Large Tracheal Carcinoid Tumor

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Typical carcinoid of the trachea presenting as an endoluminal polypoidal mass is a rare occurrence. Herein, we report a case of a 34-year-old female patient who presented with features of central airway obstruction. Flexible bronchoscopy demonstrated a large pedunculated growth arising from the lower end of the trachea near carina which was flopping in and out of the main tracheal lumen and the proximal right bronchus leading to dynamic airway obstruction. Successful electrocavitary excision (using a snare loop) of the polypoidal growth was performed using the flexible bronchoscope itself. The patient had immediate relief of airway obstruction and histopathological examination of the polyp demonstrated features of typical carcinoid (WHO Grade I neuroendocrine tumor).

1. Introduction

Endobronchial benign tumors of the respiratory tract are rare [1, 2]. Carcinoids are among the commonest endobronchial benign tumors; however, primary typical carcinoids of the trachea are uncommon [1, 2]. Due to slow growth rate, symptoms are often mistaken for bronchial asthma and a delay in diagnosis is usual. Hemoptysis may not be present in all the patients. Trepopnea is an underrecognized form of dyspnea where patient is having breathing difficulty in only one lateral decubitus position. We report a case of a young female patient who presented with trepopnea and with a normal chest X-ray examination. CT scan followed by a bronchoscopic examination of the airways demonstrated the presence of a large pedunculated tracheal tumor which was successfully removed with endobronchial electrocautery with a snare loop using flexible bronchoscopy. Primary tracheal tumors are rare neoplasms which can be missed due to paucity of symptoms and difficulty in detecting them with chest radiographs.

2. Case Presentation

A 34-year-old lady presented with history of shortness of breath of four-month duration and shortness of breath used

to be worse on lying in the left lateral position (trepopnea). She also complained of dull aching central chest pain and dry cough for the same duration. In addition, she also complained of recurrent seasonal episodes of sneezing and nasal obstruction associated with headache. There was no history of fever, wheeze, and hemoptysis or weight loss. General physical examination revealed expiratory stridor. Respiratory rate was 24/min and oxygen saturation while breathing at room air was 95%. Examination of the respiratory system and rest of the systemic examination was normal.

Chest radiograph was normal. In a young female in view of trepopnea and expiratory stridor, intrathoracic (tracheal/major bronchial) obstruction was suspected and contrast enhanced computed tomography (CT) scan of the thorax was performed. In view of symptoms suggestive rhinosinusitis CT of paranasal sinuses was also performed. CT scan of the thorax showed presence of endoluminal polypoidal growth arising from the posterior wall of the tracheal bifurcation measuring 13 mm in anteroposterior diameter and 13 mm in the transverse diameter (Figure 1). The growth was not enhancing postcontrast administration. There was no mediastinal lymph node enlargement and both lungs appeared normal.

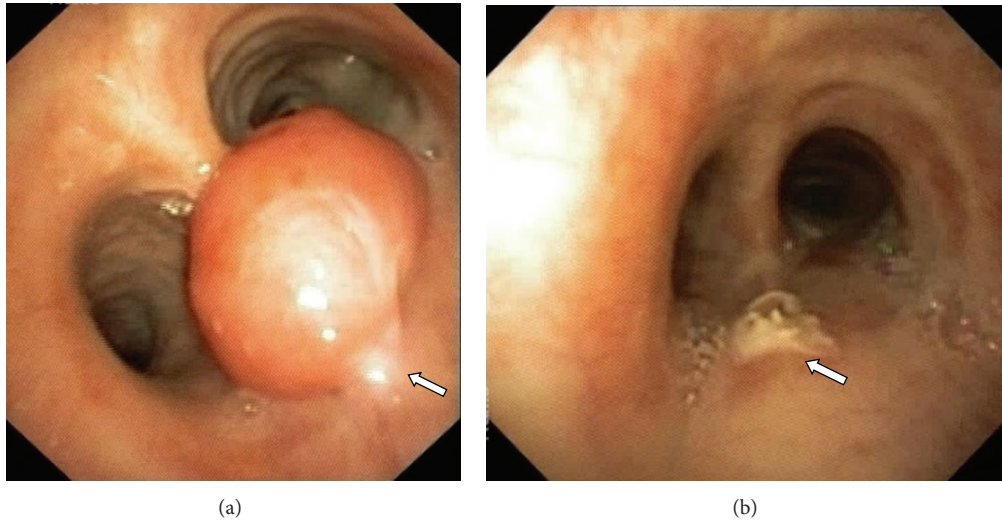


FIGURE 2: (a) Flexible bronchoscopic image showing a large fleshy polypoidal growth with well-defined narrow stalk (arrow) arising from the posterior wall of the lower trachea. (b) The electro-surgical excision successfully removed the tumor in toto (b). There was no bleed or gross evidence of residual tumor at the intervention site (arrow).

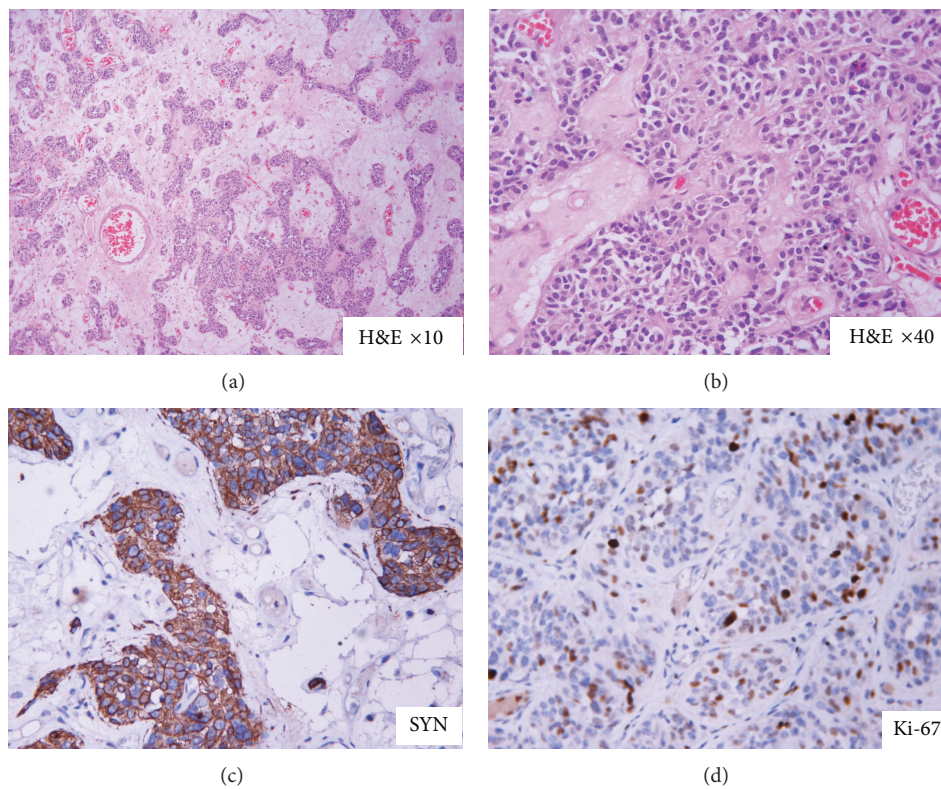


FIGURE 3: Histopathology of the ablated tumor showing features of carcinoid. Tumor cells are arranged in nests with rich vascular stroma (a). They show salt and pepper type of nuclear chromatin (b). Immunohistochemistry shows positivity for synaptophysin (c) with increased proliferating (KI 67 labelling) index (d).

electrocautery, cryotherapy, and so forth [3, 9, 10]. Flexible bronchoscopic removal of endobronchial tumors can also be performed efficaciously especially in the hands of trained operators. We performed endobronchial removal, since CT scan was suggestive of isolated endobronchial lesion without

extension through the cartilaginous area. However, it must be kept in mind that inadvertent complications may arise during flexible bronchoscopic removal like tumor displacement, significant bleeding, and so forth which might necessitate urgent rigid bronchoscopy.

4. Conclusion

Central airway tumors are mimickers of bronchial asthma and chest X-ray can be normal; hence, CT should be considered in patients who have symptoms of stridor or trepopnea. Tracheal carcinoid without extension to the mediastinum can be successfully removed using flexible bronchoscopy and electrocautery but needs close follow-up of the excision site for recurrence.

Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of this paper.

References

- [1] V. E. Gould, R. I. Linnoila, V. A. Memoli, and W. H. Warren, "Neuroendocrine components of the bronchopulmonary tract: hyperplasias, dysplasias, and neoplasms," *Laboratory Investigation*, vol. 49, no. 5, pp. 519–537, 1983.
- [2] M. García-Yuste, J. M. Matilla, A. Cueto et al., "Typical and atypical carcinoid tumours: analysis of the experience of the Spanish multi-centric study of neuroendocrine tumours of the lung," *European Journal of Cardio-Thoracic Surgery*, vol. 31, no. 2, pp. 192–197, 2007.
- [3] F. Davini, A. Gonfiotti, C. Comin, A. Caldarella, F. Mannini, and A. Janni, "Typical and atypical carcinoid tumours: 20-year experience with 89 patients," *Journal of Cardiovascular Surgery*, vol. 50, no. 6, pp. 807–811, 2009.
- [4] N. Rekhman, "Neuroendocrine tumors of the lung," *Archives of Pathology and Laboratory Medicine*, vol. 134, no. 11, pp. 1628–1638, 2010.
- [5] W. D. Travis, E. Brambilla, H. K. Muller-Hermelink, and C. C. Harris, *World Health Organization Classification of Tumours . Pathology and Genetics of Tumours of the Lung, Pleura, Thymus and Heart*, IARC Press, Lyon, France, 2004.
- [6] B. I. Gustafsson, M. Kidd, A. Chan, M. V. Malfertheiner, and I. M. Modlin, "Bronchopulmonary neuroendocrine tumors," *Cancer*, vol. 113, no. 1, pp. 5–21, 2008.
- [7] R. Bagheri, M. Mashhadi, S. Z. Haghi, A. Sadrizadh, and F. Rezaeetalab, "Tracheobronchopulmonary carcinoid tumors: analysis of 40 patients," *Annals of Thoracic and Cardiovascular Surgery*, vol. 17, no. 1, pp. 7–12, 2011.
- [8] B. Venkitaraman, S. Karunanithi, A. Kumar, G. C. Khilnani, and R. Kumar, "Role of 68Ga-DOTATOC PET/CT in initial evaluation of patients with suspected bronchopulmonary carcinoid," *European Journal of Nuclear Medicine and Molecular Imaging*, vol. 41, no. 5, pp. 856–864, 2014.
- [9] K. Madan, R. Agarwal, A. Bal, and D. Gupta, "Bronchoscopic management of a rare benign endobronchial tumor," *Revista Portuguesa de Pneumologia*, vol. 18, no. 5, pp. 251–254, 2012.
- [10] K. Madan, R. Agarwal, A. Aggarwal, and D. Gupta, "Therapeutic rigid bronchoscopy at a tertiary care center in North India: initial experience and systematic review of Indian literature," *Lung India*, vol. 31, no. 1, pp. 9–15, 2014.