# Case 16727

Eurorad

## A case of paediatric intrabronchial carcinoid mimicking bronchial asthma

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**ISSN:** 1563-4086
**Section:** Paediatric radiology
**Area of Interest:** Paediatric
**Imaging Technique:** CT
**Special Focus:** Obstruction / Occlusion Case Type: Clinical Cases
**Authors:** Nirmal Prasad Neupane1, Keshika Koirala2
**Patient:** 14 years, female

**Clinical History:**

A 14 years old female patient presented with a history of diffuse wheeze and difficulty breathing for the past 5 years. History of occasional cough and fever was also noted. There was no associated chest pain. No significant history of foreign body aspiration was noted. There was no family history of asthma or tuberculosis. The patient had been treated in the line of childhood asthma for the past 4 years.

**Imaging Findings:**

Contrast-enhanced CT chest was done for further evaluation as the patient was not significantly improving on anti-asthmatic drugs. Contrast CT chest showed a well-defined round to oval intrabronchial lesion in the left main bronchus measuring approximately 1.2 x 1.1 cm in size. The lesion lied at a distance of approximately 2.8 cm from the carina at the level of the bifurcation of the left main bronchus. It was hyperdense in the plain study (attenuation of approximately +73.4 HU) and showed significant enhancement in the post-contrast study (post contrast attenuation measuring approximately +122.4 HU). No extrabronchial extension of the lesion was noted. There was resultant hyperinflation of the left lower lobe. Patchy atelectasis with tubular bronchiectasis was noted in the left lingula. No other intra-tracheal, intra-bronchial or parenchymal lesions were noted. No associated hilar or mediastinal lymphadenopathy was noted.

**Discussion:**

Endobronchial tumours are uncommon in the paediatric population, however, when present; they can be benign as well as malignant [1]. The clinical manifestations of these endobronchial lesions can range from simple cough and occasional haemoptysis to partial or complete collapse of the lung depending upon the location and the size of the lesions. Sometimes, as a result of bronchial narrowing, these patients can present with wheezing and difficulty breathing which might mimic bronchial asthma and can mislead us if not meticulously evaluated (as in our case) [2]. Recurrent infection at the same site despite adequate antibiotic treatment should always make the treating physician suspicious of a possible underlying endobronchial lesion [3]. Proper imaging can help in early detection of these lesions and hence prevent the complications associated with inadequate/improper treatment of the manifestations associated with these lesions. Bronchial carcinoids are the most common endobronchial neuroendocrine tumours in children. Radiologically, carcinoids are seen as well-defined hyperdense nodular lesions within the central airways. Most of the carcinoids (80%) are located in the central airways (main, lobar or segmental bronchi) and only few (20%) are noted in the form of peripheral lung nodules. They show significant homogeneous enhancement in the post-contrast study. The lung manifestations can range from patchy atelectasis to complete collapse depending upon the size and the location of these lesions [4]. Associated hyperinflation of the affected lobe with diffuse air trapping can also be seen. Atypical carcinoids can present with larger size, lymphadenopathy and metastasis [5]. Complete surgical resection of these lesions has a good prognosis with high survival rate [6, 7].

Take Home Message: In case of unresolving recurrent pulmonary infections in children, underlying intrabronchial or parenchymal lesions should always be sought for. Intrabronchial carcinoids are the most common intrabronchial tumour in children. Proper evaluation and complete surgical resection has a very good prognosis in these patients.

Written informed patient consent for publication has been obtained.

**Differential Diagnosis List:** Intrabronchial carcinoid in left main bronchus leading to hyperinflation of left lower lobe., Mucoepidermoid carcinoma, Haemangioma, Leiomyoma, Inflammatory myofibroblastic tumour , Histoplasmosis nodules, Chondroid hamartoma

**Final Diagnosis:** Intrabronchial carcinoid in left main bronchus leading to hyperinflation of left lower lobe.

**References:**

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## Figure 1

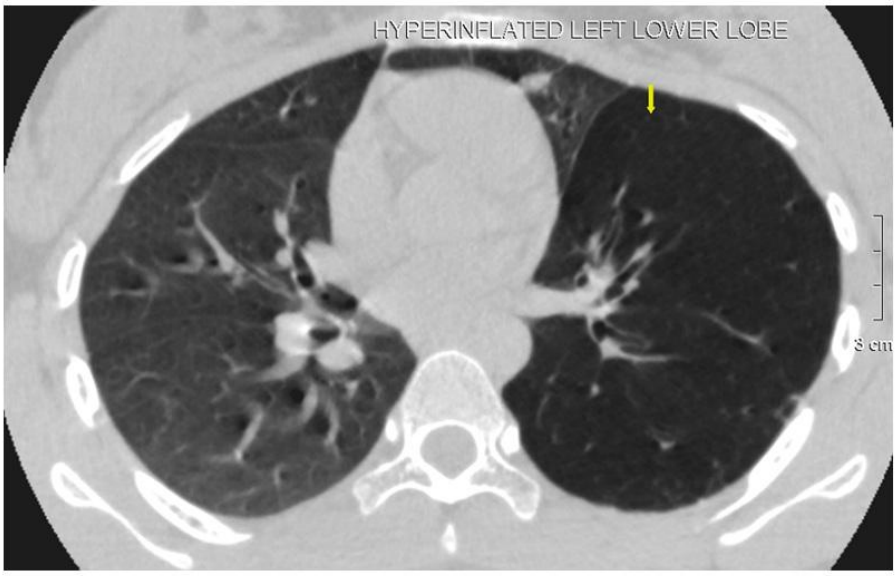
**a**

**Description:** Lung window coronal view showing well defined oval shaped lesion in the left main bronchus with associated air trapping and hyperinflation of left lower lobe.

**Description:** Lung window coronal view showing well-defined oval-shaped lesion in the left main bronchus with associated air trapping and hyperinflation of the left lower lobe. **Origin:** © Department of Radiodiagnosis and Imaging, Grande International Hospital, Kathmandu, Nepal

## Figure 2

**a**

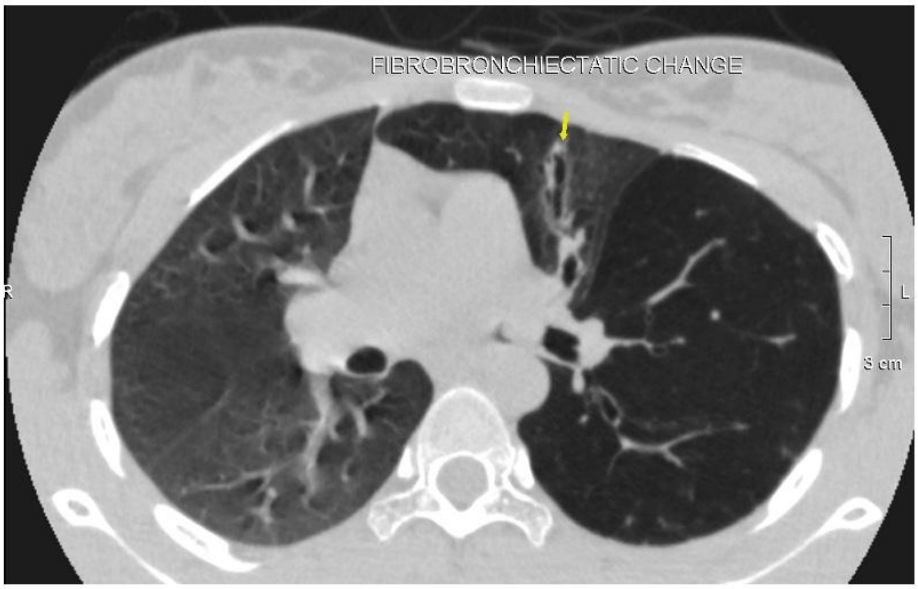



**Description:** Lung window axial view showing diffuse air trapping and hyperinflation of left lower lobe.

**Description:** Lung window axial view showing diffuse air trapping and hyperinflation of the left lower lobe. **Origin:** © Department of Radiodiagnosis and Imaging, Grande International Hospital, Kathmandu, Nepal

## Figure 3

**a**




**Description:** Lung window axial view showing hyperinflation of left lower lobe along with tubular bronchiectasis in the left lingula.

**Description:** Lung window axial view showing hyperinflation of the left lower lobe along with tubular bronchiectasis in the left lingula. **Origin:** © Department of Radiodiagnosis and Imaging, Grande International Hospital, Kathmandu, Nepal

## Figure 4

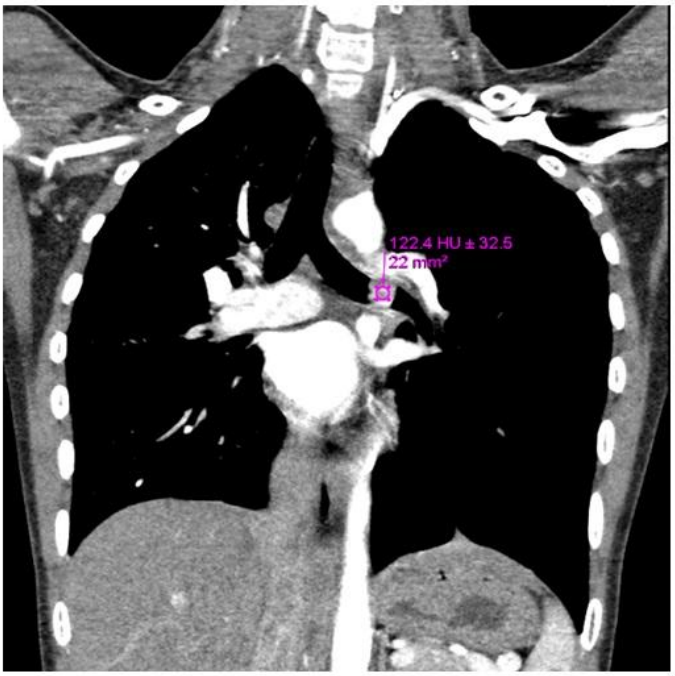
**a**


**Description**: Plain CT chest soft tissue window coronal view showing well defined oval shaped hyperdense lesion in the left main bronchus.

**Description:** Plain CT chest soft tissue window coronal view showing well-defined oval-shaped hyperdense lesion in the left main bronchus. **Origin:** © Department of Radiodiagnosis and Imaging, Grande International Hospital, Kathmandu, Nepal

## Figure 5

**a**




**Description:** Contrast enhanced CT chest soft tissue window coronal view showing homogeneously enhancing well defined oval shaped lesion in the left main bronchus.

**Description:** Contrast-enhanced CT chest soft tissue window coronal view showing homogeneously enhancing well-defined oval-shaped lesion in the left main bronchus. **Origin:** © Department of Radiodiagnosis and Imaging, Grande International Hospital, Kathmandu, Nepal