International Journal of Contemporary Pediatrics
Sudhakar T et al. Int J Contemp Pediatr. 2026 Mar;13(3):515-517
http://www.ijpediatrics.com
pISSN 2349-3283 | eISSN 2349-3291
DOI: https://dx.doi.org/10.18203/2349-3291.ijcp20260418

Case Report

Tracheal bronchus in a pediatric patient: a rare cause of recurrent lobar pneumonia

Talari Sudhakar*, Aishwarya Gawali, Abhishek Ramesh Jain, Sonali Suresh Purhe, Shilpa Y. Pawar, Trupti Joshi, Prabha B. Khaire

Department of Pediatrics, GMCH, Chhatrapati Sambhajinagar, Maharashtra, India

Received: 18 November 2025
Accepted: 02 February 2026

***Correspondence:**
Dr. Talari Sudhakar,
E-mail: Sudha143.699@gmail.com

ABSTRACT

Tracheal bronchus is a rare congenital anomaly involving an aberrant bronchus arising directly from the trachea, often supplying the right upper lobe. Although asymptomatic, it can contribute to recurrent pulmonary infections. We present a case of a 4-year-old female with multiple episodes of right upper lobe pneumonia who was ultimately diagnosed with tracheal bronchus via CT imaging. The case underscores the importance of considering structural airway anomalies in pediatric patients with recurrent, localized pneumonia.

Keywords: Recurrent pneumonia, Tracheal bronchus, CT imaging

INTRODUCTION

Tracheal bronchus, also referred to as "pig bronchus," is an anatomical variant that arises directly from the trachea instead of the carina. Though its prevalence is relatively low, estimated between 0.1% and 3%, it may carry clinical significance, especially in children with recurrent respiratory infections.[1] While the anomaly is typically incidental, it can impair mucociliary clearance, leading to chronic or recurrent infections, particularly in the right upper lobe.[2,3] Pediatric patients may present with non-specific symptoms such as chronic cough, wheezing, or repeated pneumonic episodes, making early diagnosis challenging.[4] Recent literature has emphasized the increasing use of high-resolution computed tomography (HRCT) and bronchoscopy in accurately diagnosing tracheal bronchus.[5,6]

CASE REPORT

A 4-year-old girl child presented to the pediatric emergency department with fever, cough, and respiratory distress of 5 days' duration. The child's history was significant prior two hospitalizations over the past year for right upper lobe pneumonia, each treated with antibiotics and supportive care. Her growth parameters were within normal limits, and there was no known exposure to tuberculosis or environmental allergens.

On examination, the patient was febrile (38.3°C), tachypneic (respiratory rate: 30/min), and mildly hypoxic (SpO_2 94% on room air). Auscultation revealed decreased air entry and crackles in the right upper lung field. Laboratory tests showed leukocytosis (WBC: 15,200/mm³) and elevated C-reactive protein (CRP: 34 mg/L).

Imaging and diagnosis

Initial chest radiography revealed consolidation localized to the right upper lobe. Given the recurrent nature of his illness and fixed lobar involvement, a high-resolution CT scan of the chest was performed. It was suggestive of a consolidatory patch involving the apical and posterior segment of the right upper lobe, and medial segment of the right middle lobe with an air bronchogram. Imaging also demonstrated an accessory bronchus originating directly from the right lateral wall of the trachea

approximately 1.5 cm above the carina, supplying the apical segment of the right upper lobe-a finding consistent with a tracheal bronchus.

Management and follow-up

The girl was treated with intravenous antibiotics (ceftriaxone and clarithromycin), bronchodilators, and chest physiotherapy for 7 days. After clinical improvement, she was discharged. Given the relatively mild symptoms and the resolution of infection with conservative therapy, surgical resection was deferred. The parents were counseled on signs of recurrence and advised regular monitoring. At 6-month follow-up, the patient remained asymptomatic with no new episodes of pneumonia.

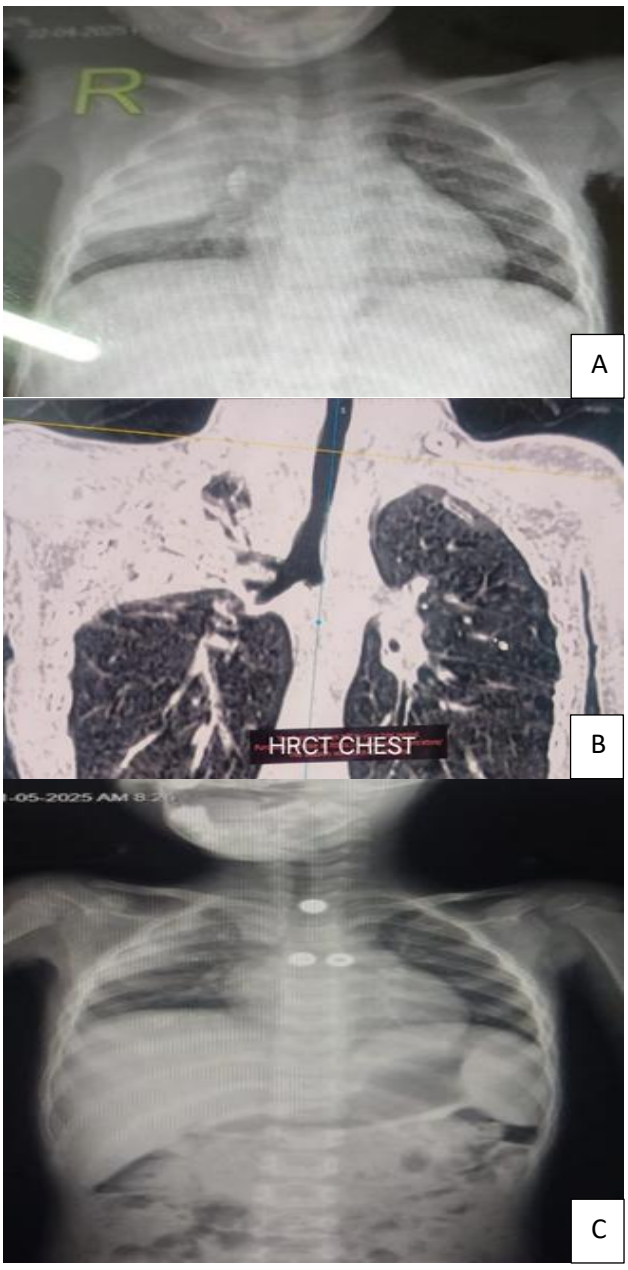

Figure 1 (A-C): HRCT chest.

DISCUSSION

Tracheal bronchus can be classified into two types: displaced (replacing the normal upper lobe bronchus) and supernumerary (in addition to the normal bronchial anatomy).[7] In our patient, a supernumerary tracheal bronchus was identified, which is less likely to be detected unless symptomatic. The abnormal bronchial origin can result in inadequate airway clearance, mucus plugging, and localized infections.[8]

Recent case studies and reviews have increasingly highlighted the need to investigate structural airway anomalies in pediatric patients with recurrent or non-resolving pneumonia.[1,9] Rasooly et al reported a similar case of a 40-day-old infant with persistent pneumonia due to a pig bronchus, while Gurung et al described a rare case involving both a tracheal bronchus and tracheoesophageal fistula.[10,11] These findings emphasize that anomalies of the tracheobronchial tree may be more prevalent among children with unexplained respiratory issues than previously thought.

High-resolution CT and fiberoptic bronchoscopy remain the gold standards for diagnosis. The management strategy is individualized, ranging from conservative treatment in asymptomatic or mildly symptomatic patients to surgical resection in those with severe or recurrent infections.[6,9]

CONCLUSION

In children with recurrent lobar pneumonia localized to the same lung region, rare anatomical variations such as tracheal bronchus should be considered. Early identification and appropriate management can reduce morbidity and prevent long-term pulmonary complications.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Ghaye B, Szapiro D, Fanchamps JM, Dondelinger RF. Congenital bronchial abnormalities revisited. Radiographics. 2001;21(1):105-19.
2. McLaughlin FJ, Strieder DJ, Harris GB, Vawter GP. Tracheal bronchus: association with respiratory morbidity in children. J Pediatr. 1985;106(5):751-5.
3. Srikanth MS, Ford EG, Miller JP, Andrassy RJ. Tracheal bronchus: classification, endoscopic analysis, and surgical implications. J Pediatr Surg. 1992;27(6):732-5.
4. Dyer DS, Mohammed TL, Kirsch J. ACR Appropriateness Criteria® on recurrent pneumonia in children. J Am Coll Radiol. 2014;11(1):70-5.

5. Kim YJ, Goo JM, Im JG. Right upper lobe bronchus arising from the trachea: CT findings. Radiology. 1999;213(3):553-8.
6. Lee EY, Boiselle PM, Cleveland RH. Multidetector CT evaluation of congenital lung anomalies. Radiol Clin North Am. 2008;46(2):203-30.
7. Gonzalez-Crussi F. Pathology of Pediatric Airways. New York: Springer-Verlag. 1993.
8. Talebian A, Shamberger RC, Doody DP. Tracheal bronchus as a cause of recurrent pneumonia. Pediatr Pulmonol. 1988;4(3):172-4.
9. Mohammadi S, Rezaei M, Rakhshani N. Tracheal bronchus: A rare anatomical variant causing recurrent infections. BMC Pulm Med. 2023;23:65.
10. Rasooly T. Recurrent pneumonia due to tracheal bronchus in an infant. Pediatr Radiol. 2023;53(1):117-20.
11. Gurung A. H-type tracheoesophageal fistula associated with tracheal bronchus: A case report. J Pediatr Surg Case Rep. 2023;95:102542.

Cite this article as: Sudhakar T, Gawali A, Jain AR, Purhe SS, Pawar SY, Joshi T, et al. Tracheal bronchus in a pediatric patient: a rare cause of recurrent lobar pneumonia. Int J Contemp Pediatr 2026;13:515-7.