

Short reports

Anomalous origin of the anterior segmental bronchus of the right upper lobe

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Anomalies of bronchial anatomy have been categorised as "displaced", when a normal bronchus arises from an abnormal site, and "supernumerary", when there is evidence that all normal bronchi are present, together with an additional bronchus.¹

In a 15-year period slightly more than 2500 bronchograms were made in the course of routine investigation of respiratory disease. Three bronchograms revealed a right upper bronchus with only two segmental branches, their disposition being clearly apical and posterior, and the middle lobe bronchus carried an additional segmental bronchus the direction of which was anterior and rostral, to supply lung which occupied that area normally supplied by the anterior segmental bronchus of the right upper lobe. Two of the three bronchograms did not show bronchiectasis, and are of good quality (figs 1, 2). In the third (fig 3), made some weeks after removal of a long-retained foreign body from the intermediate bronchus, quality is less good, there is a little left-sided filling which obtrudes in the right lateral radiograph, and there is bronchiectasis of the right lower lobe and at least the lateral segment of the middle lobe. The displaced anterior segmental bronchus is not obviously bronchiectatic and can be seen to lie caudal to a fissure which runs upwards and forwards from the pulmonary hilum to the midpoint of the manubrium sterni.

The child whose bronchogram is shown in fig 3 is at present symptom-free, and a decision on the need for resection of bronchiectasis has been deferred. As a general rule, to leave only two segments of a lung, the rest having been resected, courts postoperative complications because the residual segments can rarely be of a size sufficient to fill the pleural space. Middle and lower lobectomy, should it prove necessary in this child, would leave an upper lobe in which there are only two segments. Pneumonectomy would be an anatomically expensive resection, and a bronchogram of technically better quality would be an essential preliminary to reaching a decision on how much of the middle lobe could be spared.

The bronchial abnormalities of the right upper lobe have been well described,²⁻⁴ and occur in 3% of bronchograms.⁵ Brock⁶ records displacement of the anterior segmental bronchus, in fashion similar to that described above, in an operative specimen the photograph of which is difficult to interpret, and without a bronchogram. Records of further examples of this anomaly have not been found.

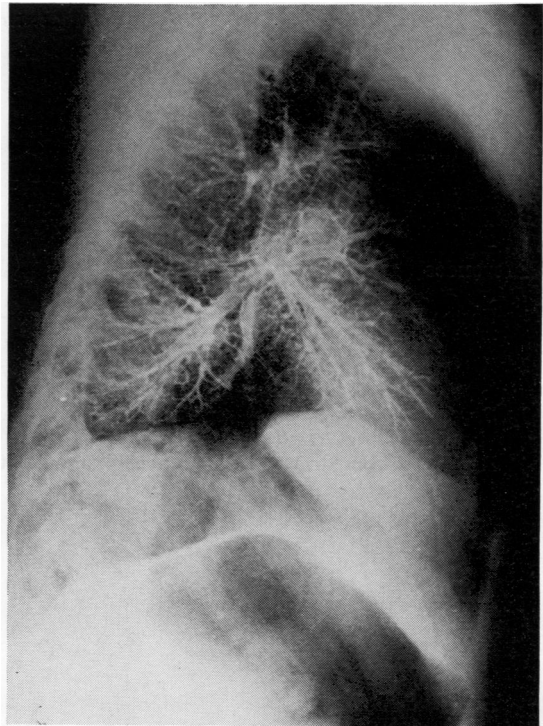


Fig 1 Right lateral bronchogram. The middle lobe bronchus trifurcates into a displaced anterior segmental bronchus and the two normal divisions of the middle lobe.

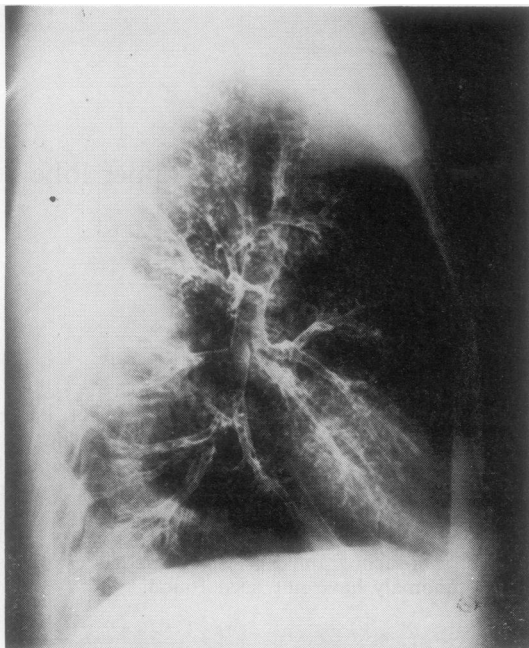


Fig 2 Right lateral bronchogram. The "anterior segmental" bronchus arises from the medial segment of the middle lobe.

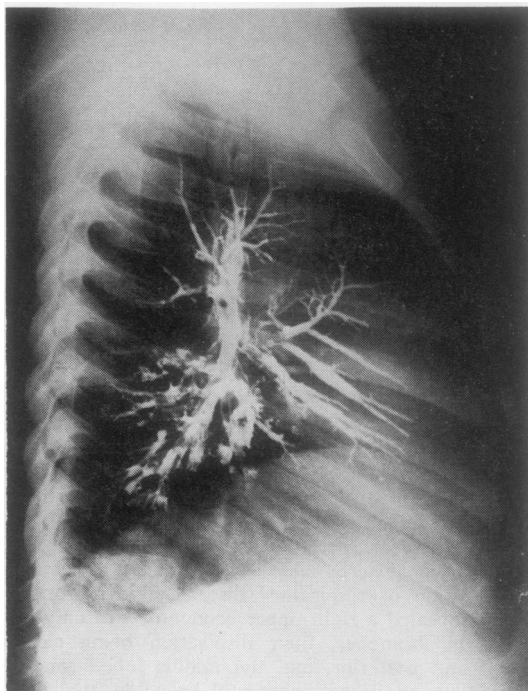


Fig 3 Right lateral bronchogram. There is discernible a fissure between the displaced anterior segment and the right upper lobe.

References

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- 3 Boyden EA. *Segmental anatomy of the lung*. New York: McGraw-Hill, 1955.
- 4 Roshe J. Bronchovascular anomalies of the right upper lobe. *J Thorac and Cardiovasc Surg* 1965; **50**:86-91.
- 5 Le Roux BT. Anatomical abnormalities of the right upper bronchus. *J Thorac Cardiovasc Surg* 1962; **44**:225-7.
- 6 Brock RC *The anatomy of the bronchial tree, with special reference to the surgery of lung abscess*. Second edition. Oxford University Press, London: 1954: 205-6.