

SUPERNUMERARY TRACHEAL BRONCHUS

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Accessory bronchi arising from the trachea are rare in man (Boyden, 1955) but common in lower animals (McEwen, 1937). When present they commonly arise from the right side of the trachea, approximately 2 cm. above the origin of the right main bronchus (Brock, 1954).

Accessory bronchi may be displaced normal branches or true supernumerary bronchi (Foster-Carter, 1946). In the former the accessory bronchus takes the place of the normal bronchus (the apical branch of the right upper lobe) arising from the trachea rather than from the right main bronchus. The right main bronchus therefore divides into only two terminal branches instead of three. True supernumerary bronchi are rare and can only be diagnosed by demonstrating the normal segmental bronchus in addition to the supernumerary bronchus. The distinction is of importance where surgery is contemplated.

Other abnormalities may also occur in the region of the right upper lobe. Thus the right upper lobe bronchus may arise from the trachea and not from the right main bronchus (Williot, 1958). An abnormal bronchus arising from the trachea and dividing into apical and anterior segmental branches to the right upper lobe has been described (Franchel, Merlier, Morelec, and Polsvert, 1955, Case 2). In this case the right upper lobe bronchus was narrower than usual.

Diverticula must be distinguished from aberrant bronchi, and the classification of Morel, Madray, Layssol, and Coll (1957) emphasizes this. They distinguish (1) true accessory lung with three lobes; (2) supernumerary lobe, as described here; (3) displaced apical segmental bronchus; (4) cul-de-sac or diverticulum; (5) a communication with a cystic, degenerative region.

The last two are acquired lesions. Type 5 is in many cases probably the result of a pulmonary lesion which has tracked into the trachea, while the true diverticulum (Type 4) develops from the trachea itself.

CASE REPORT

Mrs. D.H., aged 63, was admitted as an emergency on November 18, 1957, with epistaxis. The left external carotid artery was ligated and she was given 2 pints of blood. She was discharged home on November 26. Eight days later she developed a temperature of 104° F. but no cough.

One month later she began to expectorate about 1 oz. of thick white sputum daily. She denied ever having had any chest symptoms before this.

On January 12, 1958, she was admitted to Stoke Mandeville Hospital, and a radiograph of the chest showed two cavities with fluid levels in the apex and anterior segments of the right upper lobe (Fig. 1). Haemoglobin was 56% (8.35 g.%). She responded to penicillin and ferrous gluconate.

Bronchoscopy by Dr. Stephen Hall on February 1958 showed an accessory bronchus arising from the right lateral wall of the trachea, the other bronchi being normal. A good view of the right upper lobe bronchus was obtained and it appeared to be normal. His comment was: "This is likely to be an accessory bronchus, but may just be a perforation. No sign of neoplasm."

Bronchography (Figs. 2 and 3) showed a supernumerary bronchus with normal divisions of the right upper lobe bronchus, and extensive bronchiectasis in the right upper lobe.

DISCUSSION

Examples of a displaced apical bronchus arising from the trachea have been described by Boyden (1952), McEwen (1937), Schaff and Baum (1957) and Franchel *et al.* (1955, Case 1).

True supernumerary bronchi may be associated with bronchiectasis in the abnormal segment and in the rest of the upper lobe, as in the case described here and those described by Brock (1954) and Foster-Carter (1946). In all three the bronchiectasis is confined to the congenitally abnormal parts of the lung.

The other cases in which there is disease elsewhere in the lung are difficult to assess. It seems probable that there is no connexion between the tracheal bronchus and bronchiectasis elsewhere

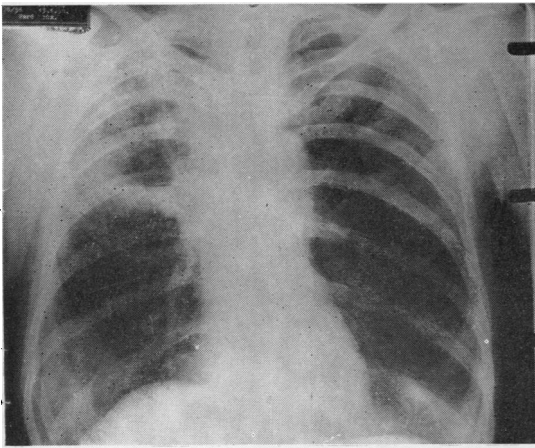


FIG. 1A

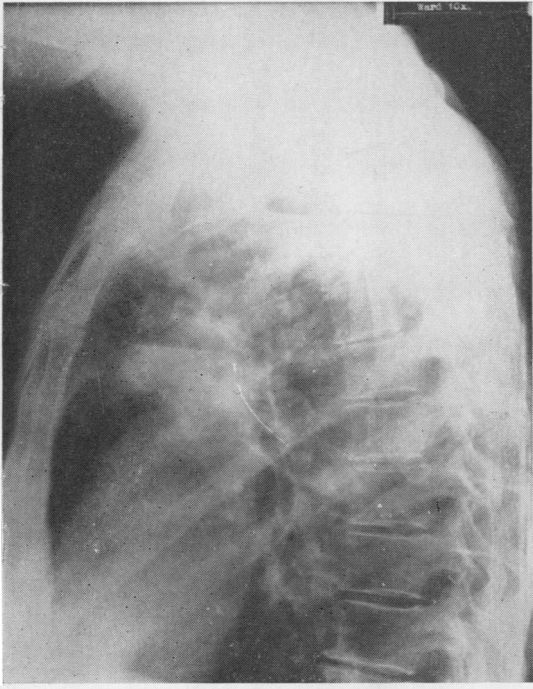


FIG. 1B

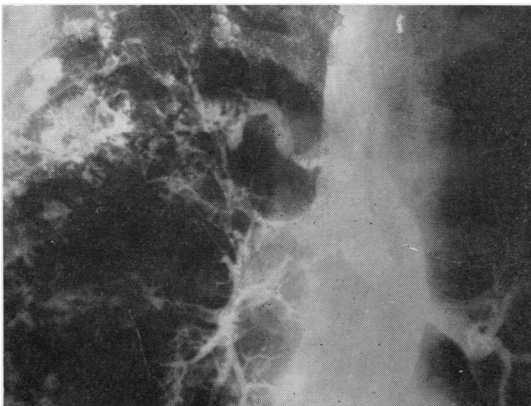


FIG. 3

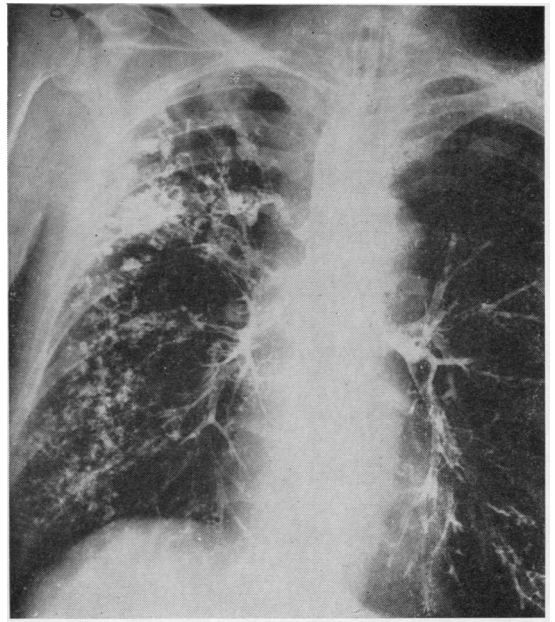


FIG. 2A

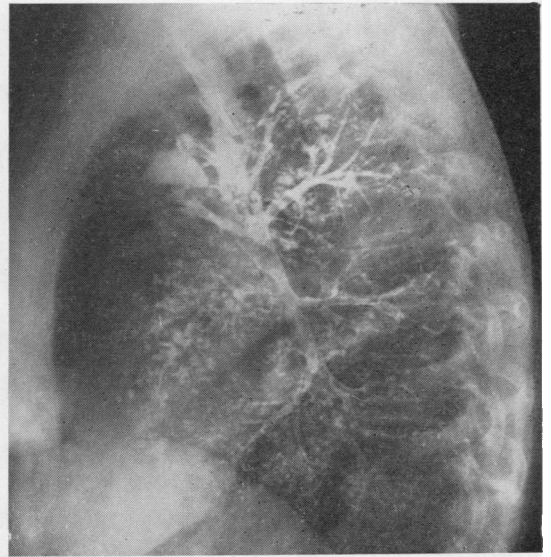


FIG. 2B

FIGS. 1A and 1B.—Postero-anterior and right lateral radiographs on admission.

FIGS. 2A and 2B.—Bronchograms showing abnormal bronchus and dye in a cavity persisting after the infection has subsided.

FIG. 3.—Detail showing abnormal bronchus arising from the trachea and the right upper lobe bronchus with its branches.

in the lungs. Supernumerary bronchi can only be diagnosed by procedures which are unlikely to be performed in patients with healthy lungs, and therefore one would expect the cases reported to have some pulmonary disease giving rise to symptoms or signs. That the condition may be unsuspected is certain. Inada and Kishimoto (1957) describe a case with infection in the middle lobe necessitating surgery, the supernumerary bronchus being an unexpected finding at operation. Dybicki, Bochinski, and Dworak (1958) describe a case with widespread cavernous tuberculosis.

Brock (1954), Gerson and Rothstein (1951), and Foster-Carter (1946) describe further cases in which the extra segment showed no evidence of bronchiectasis.

Other congenital anomalies are not usually present but may occur as in one case mentioned by Brock (1954).

SUMMARY

A case of a true supernumerary bronchus which presented with infection confined to the congenitally abnormal segment is described, and the literature reviewed.

I would like to thank Dr. V. E. Lloyd Hart under whose care the patient was admitted, and also Dr. Stephen Hall for his help.

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