Bronchography and selective bronchoscopy in diagnosis of lung malignancy: A case report

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Introduction

WE PRESENT A CASE of particular interest, especially in view of the patient's age and of her good general conditions in contrast to her chest X-ray. Even though the X-ray aroused the suspicion of metastatic deposits in both lungs, the final diagnosis would have not been definite without a combination of bronchography and bronchoscopy. In this particular case, bronchography was of utmost importance as, due to the presence of a constant filling defect at the origin of the main bronchus for the right upper lobe, the bronchoscopist could perform a second bronchoscopy with selective biopsy which gave us finally the definite diagnosis.

Clinical Findings

The patient, a 28-year-old unmarried Indian woman, was admitted to the University Hospital on 1.4.69 with a history of three months of cough productive of scanty whitish sputum and occasional fever. There was no history of haemoptysis or weight loss. The patient was a non-smoker.

The relevant physical findings were confined to the respiratory system with dull percussion note and impaired air entry over the right middle lobe, associated with scattered expiratory rhonchi over both lung fields. No clubbing or lymphadenopathy was noted. Apart from the ESR (18 mm/hr.), laboratory investigations (serological and sputum examination for AFB & fungus) were non-contributory.

The report of the chest X-ray (Fig. A) on admission (1.4.69) was that there were diffuse nodular opacities scattered throughout both lung

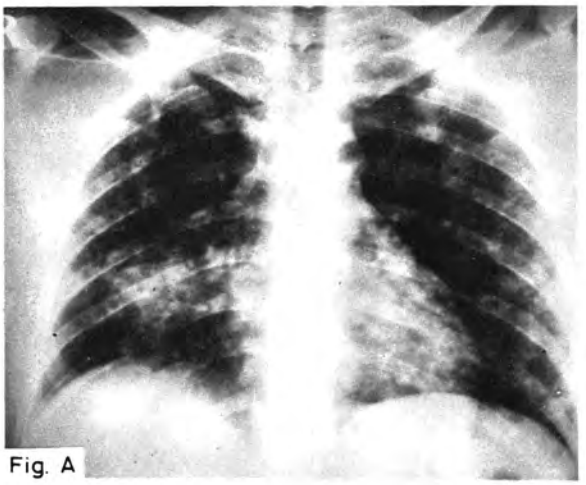

Fig. A

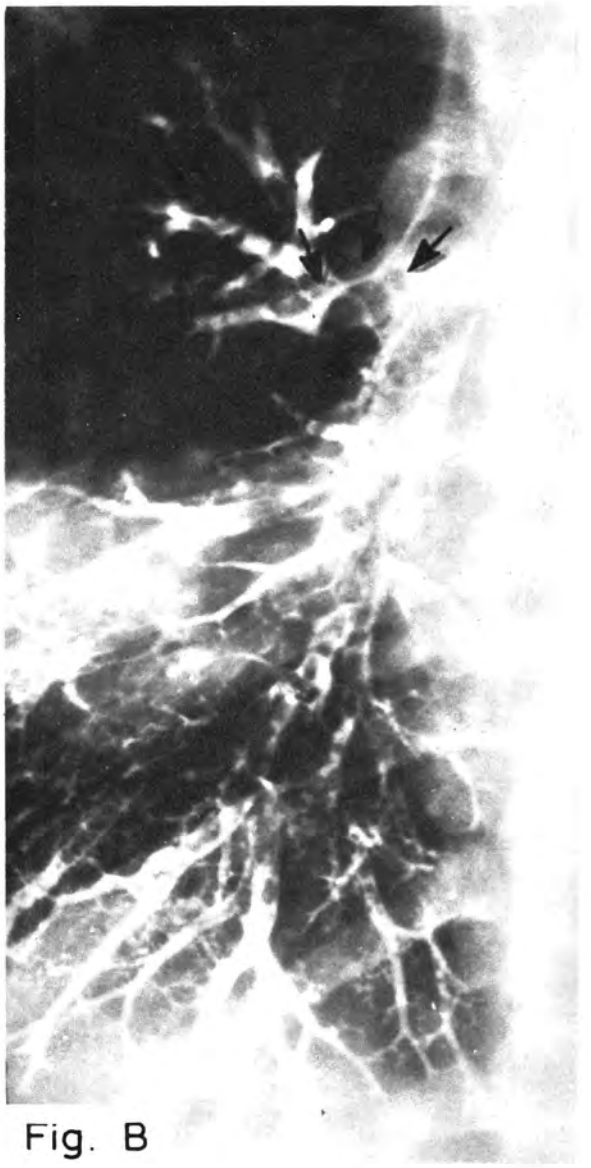

Fig. B

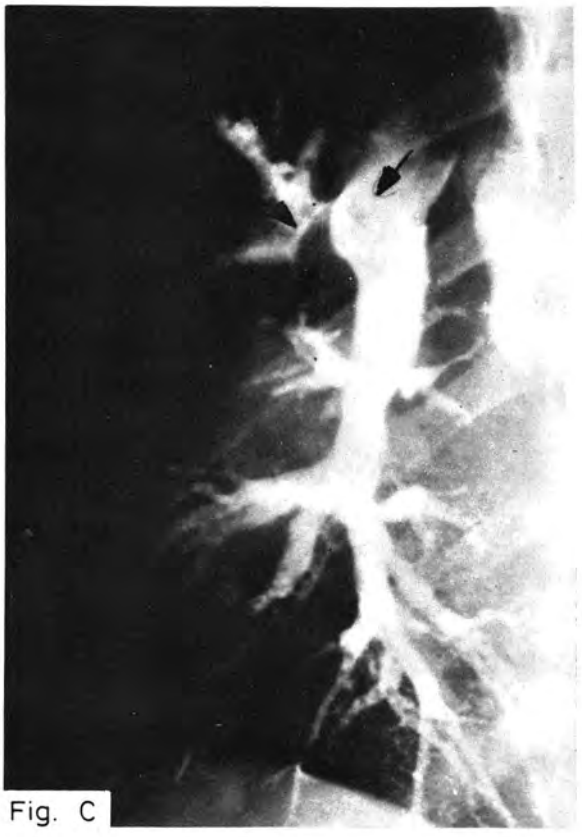

Fig. C

fields. There was a large opacity in the right middle lobe area. The appearances would fit in with one of the following differential diagnosis:

(1)Multiple pulmonary metastases.
(2)Extensive bilateral bronchopneumonia, with developing lung abscess in the right mid zone.
(3)Tuberculous broncho-pneumonia.
(4)Multiple pyaemic abscesses.

A first bronchoscopy was performed on 16.4.69 and the findings were that the trachea was normal,

carina sharp. Left main bronchus and branches normal. Right upper and lower lobe bronchi collapsed. The diagnosis was: collapsed right middle lobe.

A bronchogram was suggested to evaluate further the nature of the collapsed right middle lobe and the diffuse nodular opacities scattered throughout the lungs.

A right bronchogram was performed on 19.4.69 and the findings were that there was a constant well outlined radiolucent filling defect (Figs. B & C) constantly noted at the origin of the main bronchus for the right upper lobe. In view of this finding, a repeated bronchoscopy with particular attention to the origin of the main bronchus for the right upper lobe was strongly suggested. There was no filling of the bronchi for the right middle lobe.

As a result of the right bronchogram report, a repeat bronchoscopy was done on 30.4.69. The findings were that the right upper lobe broncho-orifice was clear. Just beyond the latter, the superior wall was seen bulging into the lumen. No actual tumour was seen. A biopsy was taken from this area.

The histological report was that a section of the specimen showed masses of tumour cells arranged in irregular clumps and cords and separated by scanty fibrovascular stroma in which many eosinophils and some plasma cells were present. The tumour cells were polygonal in shape, having a moderate amount of eosinophilic cytoplasm and having large irregular hyperchromatic nuclei with prominent nucleoli showing many mitotic figures. In an occasional area, intercellular bridges were seen. However, there was no keratinisation. The histological diagnosis was: moderately well-differentiated non-keratinising squamous cell carcinoma.

Summary

We present an interesting case of lung malignancy in a young Indian patient, aged 28, in good general condition. Her chest X-ray was suggestive of possible metastatic deposits in both lungs. A constant, well-defined, small-filling defect at the origin of the main bronchus for the right upper lobe demonstrated by bronchogram, led the bronchoscopist to perform a second bronchoscopy and selective biopsy, on the basis of which the final diagnosis was obtained.

Acknowledgements

We wish to express our gratitude to Dr. H.O. Wong, Head, Department of Medicine, Faculty of Medicine, University of Malaya, for kind permission to report this case, and to Professor N.K. Yong, Head, Department of Surgery, Faculty of Medicine, University of Malaya, for performing the bronchoscopic examinations. Our thanks also to the Department of Medical Illustration, Faculty of Medicine, University of Malaya, for its photographic facilities, and to Miss Janet Low for her technical assistance.

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