Endobronchial Pneumocystis carinii Infection in a Patient with the Acquired Immune Deficiency Syndrome*

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We report a case of endobronchial Pneumocystis carinii infection in a patient who most likely had the acquired immune deficiency syndrome (AIDS). Although many unusual manifestations of Pneumocystis pneumonia have been reported in patients with AIDS, this is the first case of P carinii presenting as an endobronchial mass.

Pneumocystis carinii pneumonia occurs frequently in patients with the acquired immune deficiency syndrome (AIDS). Multiple radiographic presentations have been described, but the usual pattern is that of bilateral interstitial and/or alveolar infiltrates. Cavities and nodules rarely have been noted. In this report, we describe the first case of Pneumocystis carinii infection presenting as an endobronchial mass without any evidence of interstitial or alveolar disease due to this organism.

CASE REPORT

The patient was a 48-year-old black man who presented to another hospital in September, 1984 with the chief complaint of fatigue, weight loss, fever, cough and hemoptyis. He had a history of bisexual activity, but no other known risk factors for AIDS. He had traveled throughout Africa, had malaria and an intestinal infection with Giardia lamblia, but no history of gonorrhea or syphilis. He was a 50 pack-year smoker and had stopped three years prior to this illness.

At the time of presentation, chest x-ray film and computed tomography of the chest showed a left peri-hilar mass. Flexible fiberoptic bronchoscopy showed no endobronchial lesion. Transbronchial biopsy of the parenchymal mass was unremarkable, but special stains showed an area questionable for Pneumocystis carinii cysts. Treatment was deferred pending repeat bronchoscopy at which time no evidence for P carinii infection was found.

The patient was referred to our institution for further evaluation. He complained of persistent fever and continued weight loss, as well as daily episodes of cough and hemoptysis. There was no exertional dyspnea. Physical examination was remarkable for fever, cachexia and marked clubbing of all digits. Chest x-ray film revealed an increase in the size of the left lung mass with an area of cavitation. Sputum obtained for cytology and acid-fast stains was unremarkable and the patient was admitted for further work-up.

Percutaneous needle aspiration was done. Cytologic stains showed marked inflammation, but smears were negative for organisms (bacteria, fungi, mycobacteria and Pneumocystis). However, cultures of both the sputum and lung aspirate grew Mycobacterium tuberculosis. The patient was started on a regimen of isoniazid, rifampin and ethambutol. Clinically and roentgenographically he improved and was discharged.

The patient continued to do well for approximately two months when fever, cough and hemoptyis returned. Repeat chest x-ray film revealed a new large cavitary mass in the lingula (Fig 1a). The left peri-hilar mass continued to show improvement. Bronchoscopy was done and showed a large white endobronchial lesion which completely obstructed the lingula. Biopsy of this mass was remarkable for sheets of Pneumocystis carinii cysts (Fig 2). There was no evidence of neoplasm or granuloma. Acid-fast stains showed no

![Figure 1A](left). Chest x-ray film shows lingular infiltrate with small cavitation. 1B (right). Gallium scan of the chest shows localized uptake in area of lingula (arrow).
organisms and culture results were negative. Bronchial lavage from the right middle lobe and transbronchial biopsies of the left lower lobe were negative for both acid-fast and Pneumocystis carinii organisms. A gallium scan done at this time showed uptake only in the area of the endobronchial mass (Fig 1b). He was started on trimethoprim/sulfamethoxazole, but was changed to pentamidine isethionate because of granulocytopenia.

The patient had a progressively downhill course, with worsening of his nutritional state and the development of severe neurologic disease. This neurologic deterioration was thought to be secondary to HTLV-III encephalitis since no other cause was found and peripherally his blood was antibody-positive for HTLV-III virus. Chest x-ray examination showed no improvement and a repeat bronchoscopy after three weeks of anti-Pneumocystis treatment still showed the endobronchial mass, which was slightly smaller. Biopsy of the lesion once again showed Pneumocystis carinii organisms. Bronchial lavage from the right middle lobe and lingula showed no evidence of Pneumocystis carinii, tuberculosis or cytomegalovirus. Subsequently, cultures of the left lavage and sputum grew an actinomycosis species. He was started on therapy with clindamycin because of a penicillin allergy, in addition to pentamidine. Over the ensuing two months the chest x-ray film findings did not show improvement and the patient had progressive neurologic deterioration causing his demise. Permission for autopsy was not obtained.

**DISCUSSION**

_Pneumocystis carinii_ usually presents as a diffuse interstitial and/or alveolar process. There have been several reports of unusual roentgenographic manifestations of _Pneumocystis carinii_ pneumonia both in the AIDS and non-AIDS afflicted population. Nodular infiltrates and cavitary lesions have been described, but no case of Pneumocystis infection presenting as a localized endobronchial mass has been reported.

Out patient is unique in that he presented with an obstructing endobronchial lesion as the sole manifestation of _Pneumocystis carinii_ infection. The fact that a gallium scan showed localized uptake in the area of the endobronchial mass and that bronchial lavage and transbronchial biopsies of other areas of the lung were negative for _P carinii_ organisms, makes the possibility of diffuse Pneumocystis pneumonia unlikely.

The etiology of the cavitary lesion in this patient is unclear. Progressive tuberculosis with negative sputum and bronchial washings for acid-fast organisms would be unlikely. A cavitary lesion due to _Pneumocystis carinii_ is possible; however, the negative lavage of the lingula and transbronchial biopsies argue against this diagnosis. A possible cause of the cavitary lesion in this patient is an anaerobic infection secondary to the obstructing Pneumocystis lesion. Actinomycosis is a strong consideration, as it was cultured from the lavage and sputum.

In summary, we report the first case of _Pneumocystis carinii_ infection presenting as an endobronchial mass without any evidence of diffuse parenchymal involvement due to this organism.

**REFERENCES**


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**Congenital Coronary Arteriovenous Fistula Associated with Dilated Cardiomyopathy***

Yoshinori L. Doi, M.D.; Jun Takata, M.D.; Naohisa Hamashige, M.D.; Yoshihiro Yonezawa, M.D.; Hiroaki Odawara, M.D. and Toshio Otsawa, M.D.

A 59-year-old housewife with heart failure was found to have dilated cardiomyopathy associated with bilateral coronary artery fistula to the pulmonary artery. Coexistence of coronary arteriovenous fistula and dilated cardiomyopathy has not been reported and seems to be a casual association.

Bilateral coronary artery fistula to the pulmonary artery is one of the rarest forms of congenital coronary arte-

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