Coincidental Occurrence of Bronchial Adenoma and Pulmonary Tuberculosis

A Case Report

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Only a few years ago bronchial adenoma was considered a rare tumor. Recently, however, an increasing number of reports have been published of this neoplasm. On the basis of their experience Lindskog and Liebow hold that bronchial adenomata comprise 4 to 5 per cent of all pulmonary neoplasms.

An adenoma originating in the bronchial wall gives rise to symptoms of obstruction, infection and haemorrhage. Similar symptoms are also seen in two diseases which are far more common than adenoma, i.e., carcinoma of the lung and pulmonary tuberculosis. From the point of differential diagnosis the most difficult cases are those in which two diseases clinically resembling each other are coincidently present. The more common disease or the one first diagnosed readily masks the other condition, as is also shown by the case described below.

A carpenter, aged 38, with numerous cases of tuberculosis in the familial history, had a febrile period in the autumn of 1950. After two to three weeks the fever subsided spontaneously. In the following spring the febrile bout recurred and was associated with cough and bloody sputum. Chest x-ray film examination revealed in the right lung a shadow simulating tuberculosis and the patient was sent to a tuberculosis sanatorium with the diagnosis: Tuberculosis pulm. dx. gr. I b. Tubercle bacilli were found for the first time in stained sputum in February 1951. Because of a cavity seen in the right lower lung field, right pneumothorax was instituted in the autumn.

FIGURE 1

Figure 1: Postero-anterior view of the chest at the time of admission show a roundish shadow in the lower field of the right lung.—Figure 2: Bronchogram showing somewhat clumsy and crooked bronchi of the right lower lobe but no contrast medium defects.

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of 1952 but after six months was discontinued as ineffective. Medical therapy in the sanatorium consisted of streptomycin, PAS and INH. His general physical condition improved, the blood in the sputum disappeared, and he was afebrile nearly the whole time. The cavity in the lower lobe nevertheless persisted and yielded tubercle bacilli in the sputum. He was therefore transferred to the surgical clinic for treatment by resection.

Preoperative routine roentgenograms and tomograms disclosed in the lower field of the right lung a roundish shadow about one inch in diameter, with somewhat diffuse margins. This was considered to be a tuberculoma (Figure 1). In bronchography the bronchi of the right lower lobe were somewhat clumsy and crooked but no contrast medium defects were seen (Figure 2). Bronchoscopy was also attempted but had to be interrupted because of his restlessness and the adenoma was therefore not diagnosed.

Resection of the right lower lobe was performed on February 28, 1957. In the common basal bronchus of the lower lobe, immediately distal to the origin of the bronchus to the apical segment there was a smooth-suraced tumor nearly one inch in diameter protruding into and narrowing the lumen, and covered by bronchial mucosa of normal appearance. The tumor extended outside the bronchus into lung tissue; about one-third of the neoplasm was situated endobronchially. In the postero-basal segment of the lower lobe there was a tuberculoma about one inch in diameter with indefinite margins, and peripheral to it a thin-walled cavity of nearly the same size.

Microscopic examination showed an adenoma of carcinoid type situated in the bronchial wall and composed of cords of medium-sized pale cells. The partitions between the cords frequently consisted of small capillaries. Cell mitoses were not seen (Figure 3).

Post-operative recovery was normal and he is now receiving further treatment in a sanatorium.

DISCUSSION

In the case reported above a bronchial adenoma was an unexpected finding at a surgical operation performed because of lower lobe tuberculosis with cavity formation. On x-ray film examinations, including bronchography, the presence of an adenoma was not suspected and the

FIGURE 3: Photograph of microscopic section of the bronchial adenoma showing its carcinoid structure. × 250.
roundish shadow was diagnosed as a tuberculoma. The sputum yielded acid-fast bacilli a number of times. The bloody sputum was in no way notably copious or of long duration. The symptoms and examination findings could therefore be fully explained on the base of tuberculosis and no sign pointed to the presence of another disease. Bronchoscopy would undoubtedly have disclosed the tumor but it had to be interrupted. This case warns us to keep in mind that regardless of a confirmed diagnosis of tuberculosis the patient's lung may also be the site of another disease.

The literature contains a number of references to the co-existence of pulmonary tuberculosis and carcinoma of the lung. From Finland, for example, there is a report by Laustela and Thomander. On the other hand, the coincident occurrence of the more rare adenoma and of confirmed tuberculosis has been reported in only two cases in the literature available to us. In the case described by Zorini the patient received the diagnosis of pulmonary tuberculosis on clinical grounds alone and was placed in a sanatorium. There he finally developed actual tuberculosis because, in Zorini's opinion, of his exposure to the disease in the hospital. In the case now under review, acid-fast bacilli were found in the sputa already at an early stage of the disease and the patient's tuberculosis cannot be regarded as consequent upon sanatorium infection. In the case of Aceto and Chakravarty a positive culture for acid-fast bacilli confirmed the diagnosis of pulmonary tuberculosis. Bronchoscopy performed because of atelectasis revealed a bronchial adenoma involving a middle lobe bronchus.

According to Aceto and Chakravarty "the fact that in two thirds of cases of bronchial adenoma the tumor involves the main lower lobe bronchi, while lower lobe tuberculosis as the initial or sole site is relatively uncommon, may be helpful in differentiating this tumor from tuberculosis". In the case here presented, however, the tuberculosis was localized in the lower lobe, which was also the site of the adenoma, rendering differential diagnosis all the more difficult.

Both disease processes in our case thus were situated in the same lobe but had no direct contact with each other. The tuberculosis was localized in the postero-basal segment. The adenoma was situated in the wall of the common basal bronchus, narrowing the lumen but not giving rise to atelectasis. It is possible that impaired ventilation due to the narrowed lumen may have played some role in the development of the tuberculous process.

Lobectomy removed both the main tuberculous focus and the "silent" adenoma since they were situated in the same lobe. In connection with this case there again is reason to emphasize the importance of bronchoscopy in the diagnosis of bronchial adenomata.

REFERENCES