Esophageal Carcinoma with Alveolar Cell Tumor of the Lung*

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Interest in the recent literature on alveolar cell tumors of the lung has centered about the disagreement as to their histogenesis. With regard to their development from the alveolar lining, Bensley and Bensley1 believe that a continuous layer of epithelial cells line the alveoli. Others feel that the alveoli have a discontinuous epithelial lining, and some think that no true epithelial lining of the alveoli exists. These different views have been well summarized by Neuberger and Geever.2 However, studies of the lung under inflammatory conditions and in chronic passive hyperemia have demonstrated what is considered by many to be epithelial proliferation from alveolar lining cells.3,4 It would therefore appear valid to state that under certain pathologic conditions and possibly normally, the alveoli have a definite epithelial lining. An origin of these tumors from bronchiolar epithelium has been suggested by Herbut,5,6 but this concept has not been substantiated by actual gross or microscopic examinations. Finally, a metastatic origin has been considered. Neuberger and Geever3 state that by definition primary cancer elsewhere in the body must be excluded. Others7 have also emphasized this point among the criteria for diagnosis.

The following case, believed to be the first to illustrate such a coincidence of an alveolar cell tumor and primary carcinoma elsewhere, is being reported to demonstrate that the presence of another malignancy does not invalidate the diagnosis of primary alveolar cell tumor of the lung. Wood and Pierson8 reported a case in which the pulmonary lesion was diagnosed by lobectomy and the patient, while under observation developed an adenocanthoma of the cervix.

Case Report

M. B., a 57 year old colored female was admitted to Gallinger Municipal Hospital, Washington, D. C., on January 18, 1949 with the chief complaints of dyspnea and fatigue. She had episodes of generalized weakness and fatigue requiring bed rest at sporadic intervals for the previous four years. Approximately six weeks prior to admission the patient developed a "weak spell" in association with cough productive of moderate amounts of white sputum. Also during this time she estimated a weight loss of 30 pounds and for several days prior to admission dyspnea had been present. Past medical history and systemic inquiry were not informative. On physical examination the patient showed signs of recent weight loss and was dyspneic even at rest. Masses of matted supraclavicular nodes were present, there were signs of fluid over the right hemithorax and diffuse moist rales were heard over the entire left chest.

The admission blood count was essentially normal. The urine was normal and the serologic tests for syphilis were negative. A chest x-ray film showed right

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pleural effusion and miliary motting was present throughout the left lung (Figure 1). Findings were interpreted as being consistent with miliary tuberculosis with right pleural effusion. Repeated sputum studies and bone marrow examinations were negative for acid fast bacilli. Right thoracentesis was done and 1,000 cc. of orange-red fluid were removed. A chest x-ray film after this procedure showed miliary motting on the right. A cell block from the pleural fluid showed cells suggestive of neoplasm. Biopsy of a right supraclavicular node showed papillary adenocarcinoma, metastatic, possibly of ovarian origin. A low grade fever was present during the period of hospitalization. Despite supportive therapy she expired on April 8, 1949.

At autopsy both lungs were studded with white rubbery nodules varying in diameter from 0.5 to 1.5 cm. (Figure 2). The right pleural space contained approximately 2,000 cc. of greenish pleural fluid. The left pleural space was obliterated by adhesions. Many of the mediastinal nodes were replaced with firm white areas similar to those found in the lung. The deep lymph nodes of the anterior cervical region showed similar changes. The liver and spleen contained nodules like those found in the lung. The lower third of the esophagus in its posterior portion had a mucosal ulceration approximately 2.5 cm. in diameter. The lung sections on microscopy showed the alveoli to be lined by neoplastic cells with hyperchromatic nuclei. The alveolar septa were not appreciably thickened and minimal inflammatory cell infiltration was noted (Figure 3). The metastatic areas which were present in the mediastinal and cervical nodes, liver, spleen, thyroid and adrenals were similar to the pulmonary lesion. The esophageal lesion was a typical squamous cell carcinoma (Figure 4).

Comment

A recent paper by Good et al. from the Mayo Clinic has done much to clarify some of the confusion about these tumors. These authors divide them into grades 1 to 4. Those cases showing the most regular cells with the smallest nuclei are placed in grade 1 while those with the largest
nuclei and the least regular cells are placed in grade 4. Grade 4 tumors are the ones which may show distant metastases. They also state that the cases in grade 1 may belong to the group called pulmonary adenomatosis. Definite histopathologic criteria have also been established for making the diagnosis of alveolar cell tumor of the lung. The alveoli should be lined by columnar cells which may show various grades of malignancy and may also be formed into papillary projections. Further the inter-
alveolar septa should be thickened slightly or not at all and there should be little evidence of an inflammatory reaction. It is believed that if these criteria are followed the question of metastatic malignancy need not be a problem. It is therefore demonstrated by this case that the diagnosis of alveolar cell tumor should be made on its own merits and the absence of a primary cancer elsewhere is not a requisite for making this diagnosis.

Another interesting feature of this tumor is its morphologic similarity to lesions found in sheep, mice, horses and guinea pigs. This disease has been called jagziekte, pulmonary adenomatosis and infectious adenomatosis. The exact cause of this disease is unknown but it is believed to be infectious and possibly viral in origin. There is no characteristic clinical picture although the most common symptoms are cough productive of sputum, dyspnea and hemoptysis. However, a typical type of sputum may be present in approximately 32 per cent of cases.10 This is a profuse watery mucoid sputum which may exceed 1,500 cc. per day. It is possible for the quantity of the sputum to be so great as to cause electrolyte depletion.11 The x-ray findings are not typical although alveolar cell tumors should be considered in the differential diagnosis of diffuse bilateral involvement. Probably the most valuable aid in the diagnosis is cytologic examination of the sputum or bronchial secretions.9,11 Good et al9 state that the only effective treatment is excisional therapy and that two of nine patients on whom this type of surgery was performed are alive and well after five years. They also note that another possible therapeutic approach which should be explored is a combination of surgery and irradiation.

SUMMARY

A case, believed to be unique, of alveolar cell tumor of the lung in association with squamous cell carcinoma of the esophagus is presented.

It is believed that the absence of a primary cancer elsewhere should not be one of the criteria for making the diagnosis of alveolar cell tumor of the lung.

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RESUMEN

Se presenta un caso, que se cree único, de un tumor pulmonar de células alveolares acompañado de un carcinoma del esófago de células pavimentosas.

Se opina que la ausencia de una cancer primario en otra región no debe ser requisito para hacer el diagnóstico de tumor pulmonar de células alveolares.

RESUME

L’auteur rapporte l’observation qu’il pense être unique d’un cancer alvéolaire du poumon associé à un cancer de l’oesophage.
Il pense que l'absence de cancer primitif sur un autre viscère ne doit pas être un des arguments sur lesquels on se base pour poser le diagnostic de cancer du poumon à cellules alvéolaires.

REFERENCES