arose in lung parenchyma which had been shown to be previously roentgenographically abnormal. Scar carcinoma has been associated with several causes of focal pulmonary fibrosis including tuberculosis, organized pneumonias, cryptogenic fibrosing alveolitis, infarction, chronic abscess, histoplasmosis, Hamman-Rich syndrome, scleroderma, rheumatoid lung, trauma as well as foreign substances including asbestos, beryllium and silica.6-11 However, there has been no description of scar carcinoma associated with Lucite or Lucite ball plombage.

Scar carcinoma accounts for between 16 to 30 percent of cases of peripherally located lung carcinomas.7,8,10,11 Adenocarcinoma and bronchioalveolar carcinoma are the most frequently encountered cell types in scar carcinomas.9,10 Squamous cell carcinoma accounts for 0 to 16 percent of cases of scar carcinoma in most large series.7-10

In summary, we have presented a patient with a history of pulmonary tuberculosis and extrapleural pneumonolysis with Lucite ball plombage who developed a primary lung carcinoma in close approximation to the plombage space. The patient had no history of the usual risk factors for squamous cell lung carcinoma, which was the histologic subtype of the tumor. Lucite is not a known carcinogen in man. It has been classified as a possible carcinogen based on experimental implantation tumor studies in mice.12-13 Since the plombage procedure was performed only for a limited time, and new cases such as the one described here are unlikely to surface, we can only speculate as to the possible relationship between Lucite and the development of lung carcinoma.

A Life-Threatening Tracheal Localization of Lymphoma in a Patient with AIDS*

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Lymphoma is a frequent complication of HIV infection, but we report a rare localization in the subglottic tracheal area. A case of tracheal stenosis due to lymphoma in an HIV-infected patient is presented. The main complaint was severe dyspnea. Chemotherapy was ineffective but radiotherapy improved the patient's condition and increased the caliber of the tracheal lumen. (Chest 1993; 103:1297-99)

BALT = bronchus-associated lymphoid tissue

A 30-year-old man was admitted to our department on June 12, 1990, because of severe dyspnea. The medical history was remarkable for the following: in April 1984 the patient had been treated for mature testicular teratoma (stage III of the Boden classification) with chemotherapy and lumboperitoneal lymphadenectomy. During surgery, he needed a blood transfusion. In August 1985, he was hospitalized for an immunohemolytic anemia and needed other blood transfusions. In July 1987, he was found to have positive serology tests for HIV (ELISA test and Western blot). The patient had no other risk factors. The HIV transmission was certainly from blood transfusions. Four months later, he developed Pneumocystis carinii pneumonia. The absolute count of CD4-positive lymphocytes was 500/μm. The pneumonia was successfully treated with sulfamethoxazole-trimethoprim, and secondary prevention of Pneumocystis carinii pneumonia by nebulized pentamidine every two weeks was started. Between February 1989 and May 1990, three episodes of toxoplasma encephalitis occurred despite prophylaxis (pyrimethamine 50 mg/week); these episodes were treated with pyrimethamine and sulfadiazine that showed clinical and scan improvement.

The patient was admitted to the hospital with a three-day history of cough, dyspnea, dysphonia, and fever. He was cachectic (weight, 55 kg, height, 170 cm). Temperature was 38°C and pulse rate was 100 beats/min. Physical examination revealed coarse inspiratory and expiratory rales. Wheezing was audible over both lung fields. Arterial blood gases, in air, were as follows: PaO₂, 100 mm Hg; PaCO₂, 31 mm Hg. Blood cell count showed pancytopenia: hemoglobin, 9.3 g/dl; hematocrit, 27.4 percent; platelet count, 54,000/cu mm; and leukocyte count, 11,000/cu mm with 69.5 percent polynuclear neutrophil cells.

An anteroposterior chest roentgenogram showed a normal lung field, but according to clinical signs, we suspected a long stricture of the cervical tracheal area. Computed tomography (CT) showed a stenosis of the trachea at the level of the C1, C2, and C3 vertebrae. This stenosis was due to a tumor located in the right lateral wall of the trachea.

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the trachea (Fig 1). There was no adenopathy. Injection of contrast medium emphasized the peripheral part of the tumor.

Flexible tracheobronchoscopy showed a lesion filling the half part of the tracheal lumen, immediately below the vocal cords. The mucosal membrane seemed normal but when the bronchoscope got closer to the lesion, its contact caused bleeding. The biopsy specimens with small forceps showed only necrotic tissue.

Rigid tracheobronchoscopy enabled us to take more substantial samples of tissue. Histologic examination of the biopsy specimens of the lesions disclosed a diffuse large cell immunoblastic lymphoma.

Abdominal echography and a CT scan of the brain showed no other localization of lymphoma.

Intravenous corticoid therapy was started. The patient was treated with chemotherapy given every three weeks (doxorubicin [Adria-mycin] bleomycin, cyclophosphamide, vincristine, and etoposide [VP16]; methotrexate intrathecally). After two courses of this regimen, we evaluated the response to treatment: the clinical signs did not change and the CT scan of the trachea showed progression of the disease.

Therefore, local radiation therapy was decided. A total dose of 20 Gy was administered in two sequences separated by 48 h. Dyspnea and cough improved markedly while the tracheal CT scan demonstrated that the tracheal narrowing was reduced (Fig 2).

Thus, tracheostomy could be avoided.

The patient died suddenly 14 days after radiotherapy of septic shock and pneumonia with staphylococcal empyema. Autopsy was not performed.

DISCUSSION

The case we report herein is, to our knowledge, the first of tracheal localization of lymphoma in a patient with AIDS. This localization of lymphoma seems quite infrequent even in non-AIDS patients. Nevertheless, this location of lymphoma is conceivable because of the normal presence of lymphoid tissue distributed throughout the tracheobronchial tree, constituting the "bronchus-associated lymphoid tissue (BALT)."

Neoplastic diseases associated with HIV infection have been observed in about 15 percent of the patients. Just after Kaposi's sarcoma, lymphomas are the most prevalent neoplastic complications related to HIV infection. The most frequent are high-grade lymphomas.

Extralymphatic sites of lymphoma, especially central nervous system and bone marrow, are common in patients with HIV. However, respiratory involvement is rather rare. In 648 patients with AIDS, 40 had non-Hodgkin's lymphoma, including only four with documented pulmonary involvement. In another reported series of 70 patients with AIDS, only two had pulmonary lymphoma. Of 35 patients with AIDS-related lymphoma seen at the Northwestern Memorial Hospital (Chicago), 11 (31 percent) had thoracic involvement. In these cases, pleural effusions, alveolar or interstitial patterns, were the most common roentgenographic features and chest localizations were generally extranodal, but in one patient, a paratracheal node was found and two presented with hilar unilateral adenopathy.

In our patient, the diagnosis was difficult to obtain. The CT appearance of the lesion was consistent with an abscess (peripheral enhancement after injection of contrast medium). Flexible bronchoscopy failed to provide histologic diagnosis and rigid bronchoscopy was indicated to obtain more substantial samples. Rigid bronchoscopy would have enabled us to control more easily bleeding or edema consecutive to biopsy, but we noted no complication in our patient. This observation suggests that an early chest CT or flexible bronchoscopy is indicated in HIV-positive patients who become breathless and whose posteroanterior chest roentgenogram is normal.

Chemotherapy is quite effective in lymphomas occurring in patients without HIV. It seems less effective in patients with HIV. The median survival, after various treatments, is five months but it varies according to the histopathologic type (two months in the immunoblastic type). In our patient, progression of the tracheal tumor was observed during chemotherapy and, therefore, no improvement of the symptoms was noted. Radiation therapy in contrast allowed dramatic improvement in dyspnea and wheezing. No complications could be directly related to this treatment. The right basal pneumonia and staphylococcal empyema of our patient could have been due to inhalation, but no swallowing difficulties were observed.

We conclude that radiation therapy is an effective palliative treatment of tracheal or principal bronchus sole localization of lymphoma in an HIV-positive patient.
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REFERENCES

Adenosine-induced Torsades de Pointes*

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Physicians are finding increased applications for adenosine as a diagnostic and therapeutic modality for a variety of cardiac dysrhythmias. Its short half life and lack of reported major complications make it an ideal pharmacologic agent to utilize for diagnosis and treatment. Herein we report a case of polymorphic ventricular tachycardia induced by adenosine. (Chest 1993; 103:1299-1301)

The use of adenosine as a diagnostic and therapeutic agent for supraventricular dysrhythmias has increased markedly since it was introduced into clinical practice. A potential complication from the use of adenosine may be found in patients with a prolonged QT interval. The atrioventricular block induced by adenosine may allow for the development of bradycardia-induced polymorphic ventricular tachycardia.

CASE REPORT

A 62-year-old man was taken to the operating room for treatment of a diverticular abscess involving the left iliopsoas muscle. Postoperatively, he demonstrated multiple episodes of atrial flutter and paroxysmal supraventricular tachycardia with heart rates up to 170 beats per minute. In order to control the recurrent episodes of supraventricular tachycardia, the patient eventually required a continuous infusion of procainamide, 2 mg/min, and esmolol, 50 

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\begin{figure}
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\caption{Rhythm strip 10 s after adenosine is administered.}
\end{figure}

positive inotropic effect. On the 60th postoperative day, the patient again manifested a supraventricular tachycardia with ischemic ECG changes. His elevated heart rate was not responsive to increased doses of esmolol. For diagnostic purposes, 6 mg of adenosine was administered by a central venous catheter. Approximately 10 s following the bolus injection, the patient developed the expected atrioventricular block which revealed the underlying mechanism to be atrial flutter (Fig 1). A normally conducted beat returned after a 6-s pause followed by several premature ventricular depolarizations. This initiated sustained polymorphic ventricular tachycardia. Sinus rhythm was restored via defibrillation with 360 J. At the time of the event, the serum potassium level measured 3.8 mEq/L; magnesium, 2.0 mg/dl; digoxin, 1.4 ng/ml; procainamide, 7.4 

DISCUSSION

Adenosine recently was approved by the Food and Drug Administration for intravenous use in patients with paroxysmal supraventricular tachycardia. It is particularly effective in those patients whose supraventricular tachycardia is the result of atrioventricular reciprocating or atrioventricular nodal reentrant tachycardia. In many circumstances, it has supplanted verapamil as the treatment of choice for supraventricular dysrhythmia where the underlying electrophysiologic mechanism is unclear. This is due in part to its extremely short half-life, which is reported to be 10 s. A variety of relative contraindications to the use of verapamil have been reported. These include hypotension, congestive heart failure and prior intravenous beta blocker administration. Precipitation of cardiac arrest has been reported in patients treated with verapamil who subsequently were demonstrated to have preexcitation via an anomalous atrioventricular pathway. In addition, misdiagnosis of wide complex tachycardia as supraventricular in origin with aberrant conduction often leads to therapy with verapamil.