
To the Editor:

We realized with interest that our findings were similar to those described by Zieliński and coworkers in a publication which was unknown to us. Subjects included in the study by Zieliński and coworkers seemed to have more functional impairment in terms of reduction in vital capacity and more pronounced bronchial hyper-reactiveness (PC_{20} varying from 0.35 to 2.0 mg/ml, compared to PC_{20} varying from 0.5 to >94 mg/ml in our study).

We suggested that the persistence of pulmonary edema and chronic inflammatory changes in the airways could explain the absence of significant changes in bronchial hyperreactiveness in the majority of subjects after diuretic therapy. The improvement in bronchial responsiveness after cardiac surgery for mitral valve disease might suggest that both edema and inflammation of the airway wall were cured by the surgery.

Jean-Luc Malo, M.D.,
Department of Chest Medicine,
Hôpital du Sacré-Coeur;
Montreal, Canada

Fungal Infection with Non-Hodgkin's Lymphoma

To the Editor:

We found the review by McCabe et al., "Open lung biopsy in patients with non-Hodgkin's lymphoma and pulmonary infiltrates," to be important and clinically useful in determining the proper approach to these immunosuppressed hosts. In distinction to previous reviews of patients with leukemia, they reported no case of invasive filamentous fungal infections among patients with non-Hodgkin's lymphoma and pulmonary infiltrates. In addition, they cited recent reviews that supported this low prevalence of fungal infection compared to that seen in leukemia.

However, we feel it important to note that there is a risk of invasive fungal infection in non-Hodgkin's lymphoma; this risk may be temporally related to chemotherapy. The following case demonstrates that fungal pneumonia can and does occur in these patients.

A 50-year-old man was referred to the Fred Hutchinson Cancer Research Center for consideration of bone marrow transplantation (BMT) to treat persistent diffuse histiocytic lymphoma (DHL). He was well until 18 months prior, when biopsy of a submental lymph node confirmed DHL. Treatment with cyclophosphamide, hydroxyurea, vincristine and prednisolone achieved complete response. Relapse in retroperitoneal nodes was treated with methotrexate, adriamycin, cyclophosphamide, vincristine, BCNU and bleomycin. This therapy began seven months (and ended one month) prior to our evaluation.

Upon presentation in Seattle, chest roentgenogram and computerized tomography demonstrated a 1.5 cm nodule in the right upper lobe not evident two months prior. No mediastinal adenopathy was noted. He was asymptomatic, a nonsmoker, currently receiving no medications and had remained free of clinical respiratory disease. Complete blood counts (including absolute neutrophil counts) were normal.

Transthoracic needle aspiration under fluoroscopic guidance yielded septate hyphae consistent with Aspergillus species. Because of the potential risk of fatal dissemination of infection during the period of prolonged neutropenia commonly induced by BMT, the lesion was surgically resected by lobectomy. Amphotericin B is currently being administered prior to BMT.

This demonstration of invasive filamentous fungal disease in non-Hodgkin's lymphoma is not alone in the literature. Casazza et al. reported five cases of invasive filamentous fungus in such patients. In a case series review of 98 patients with invasive aspergillosis, Young et al. identified lymphoma as the second most prevalently associated malignancy, after leukemia.

It remains controversial whether or not deficiencies in cell-mediated immunity predispose patients with lymphoma to invasive filamentous fungal infections. The report by McCabe et al. suggests that such is not the case. However, absolute or functional granulocytopenia during myelosuppressive chemotherapy or corticosteroid administration for lymphoma appears to increase the risk of invasive fungal infection.

Treatment strategies for lymphomas have become increasingly aggressive and pulmonary complications will occur. Despite the low prevalence of invasive filamentous fungal infections reported by McCabe et al., pulmonologists and oncologists need to be aware that focal pulmonary lesions can be due to such infections, even in the absence of ongoing granulocytopenia or corticosteroid therapy.

REFERENCES

Bronchoesophageal Fistula In Small Cell Lung Cancer

To the Editor:

Recently, Russchen et al. described the development of a bronchoesophageal fistula in a patient with small cell lung cancer (SCLC) responding to chemotherapy. We wish to report a patient with SCLC treated with a combination of radiotherapy and chemotherapy who developed a similar complication.

A 56-year-old white woman presented initially in July, 1989 with a history of dysphagia. A barium contrast x-ray film of the esophagus showed marked extrinsic compression and posterior displacement of the esophagus. Chest x-ray examination and CT scan showed a 15 cm diameter centrally-located mass. Fiberoptic bronchoscopy...
revealed extensive endobronchial tumor involving the carina and almost totally occluding the right and left mainstem bronchi. Acute respiratory failure ensued immediately following bronchoscopy and endobronchial biopsies, prompting intubation and mechanical ventilation. Emergent radiotherapy was instituted. The biopsy specimens revealed small cell lung carcinoma. The tumor responded well to 2,500 cGy delivered over four days; the patient was successfully weaned from mechanical ventilation and extubated. Chemotherapy was then begun using cisplatin and etoposide.

In August, 1989 the patient developed symptoms and signs of a right lower lobe pneumonia which responded quickly to intravenous antibiotic therapy. She was again admitted to the hospital in September, 1989 because of dysphagia and cough.

Her physical examination was remarkable for ronchi heard in the right lower lung field. Chest x-ray examination showed prominent lung markings in the right lower lobe. A barium contrast x-ray film of the esophagus (Fig 1)—shown in the right anterior oblique projection—demonstrated a fistula between the esophagus and right lower lobe bronchus. Esophagoscopy revealed no intraluminal tumor, and the fistula could not be identified. The patient was treated with a percutaneous gastrostomy tube for feeding and cytotoxic therapy has been continued.

Our patient differs from previously reported patients' in that she developed a bronchoesophageal fistula while responding to a combination of radiotherapy and chemotherapy for SCLC. Although we postulate that direct extension of SCLC from the lung into the esophagus occurred and that a fistula formed with shrinkage of the tumor in response to combined modality therapy, we were unable to visualize any tumor by esophagoscopy. Esophageal wall necrosis caused by a bulky tumor pressing on, stretching and displacing the esophagus may have also been a contributing factor for fistula formation.

Since these fistulae are impossible to prevent, and morbidity and mortality are almost always associated with pulmonary infections resulting from aspiration of esophageal contents, the clinician must maintain a high index of suspicion in order to properly diagnose and treat this complication of lung cancer.

Joseph C. Koval, M.D., F.C.C.P.,
Robert M. Curley, D.O.,
Department of Medicine,
Mercy Hospital and Moses Taylor Hospital,
Scranton, Pennsylvania

Reprint requests: Dr. Koval, 802 Jefferson Ave, Scranton, PA 18510

REFERENCES

Cytologic Diagnosis in Bronchoalveolar Lavage Specimens
A Diagnostic Technique for Lung Neoplasms with a Peripheral Location

To the Editor:

The analysis of BAL (bronchoalveolar lavage) cytologic specimens has been found diagnostically useful in primary lung lymphoma and in the diagnosis of parenchymal lung involvement in Hodgkin's disease and mycosis fungoides. Few workers have analyzed the diagnostic sensitivity in peripheral lung carcinoma. The sensitivity achieved in peripheral lesions that cannot be visualized through the bronchoscope has been 60 percent in one report and 35 percent in another study. We have tried to determine if the diagnostic yield of the bronchial washing and post-bronchoscopy sputum was increased by the addition of BAL cytologic analysis in a group of 30 patients with primary lung carcinoma in whom the endobronchial lesion could not be visualized through the bronchoscope. Twenty-six patients were men and four women, mean age was 45 years with a range of 36 to 75 years. All had a Karnofsky's index exceeding 60 percent. Radiologically, 26 patients showed a peripherally-located node or mass and four had an infiltrative pattern of involvement. Eleven had epidermoid carcinomas, 11 adenocarcinomas, six small cell and two with mixed histology. The analysis of BAL specimens revealed malignant cells in eight patients (26 percent), while bronchial washing was positive in 12 patients (40 percent). In the remaining 14 patients, the diagnosis was reached by complementary techniques or by surgery. The diagnostic sensitivity, with the combined use of bronchial washings and post-bronchoscopy sputum, was 40 percent. Since in four patients the diagnosis of malignancy was reached exclusively by analysis of BAL specimens, analysis with all three procedures obtains an overall sensitivity of 53 percent. The addition of BAL does not significantly increases diagnostic sensitivity obtained with the combined use of bronchial washing plus post-bronchoscopy sputum (p>0.05).

Because of the small number of patients, we did not find differences in BAL positivity in relation to histologic diagnosis. In contrast, it is interesting that three of four patients with infiltrative patterns were positive on BAL analysis, and two of them positive exclusively by this diagnostic method. By contrast, only five of 26 patients with nodular radiologic lesions had a positive diagnostic test. Our results are similar to those reported by Sineway et al. Baglin and coworkers found neoplastic cell in nine of 11 BAL.