Complete Endobronchial Occlusion by Kaposi's Sarcoma in the Absence of Cutaneous Involvement*

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Bronchopulmonary Kaposi's sarcoma (KS) occurs in 20 percent of AIDS patients with cutaneous involvement; however, complete endobronchial occlusion is uncommon. Moreover, bronchopulmonary KS is infrequent in the absence of cutaneous manifestations. We report a case of documented complete endobronchial obstruction by KS without cutaneous involvement.


Kaposi's sarcoma (KS) is the most common malignant complication of human immunodeficiency virus (HIV) infection. Pulmonary involvement by this neoplasm may occur in up to 20 percent of patients with AIDS and cutaneous KS.1 Pulmonary KS usually presents as poorly defined nodular or linear infiltrates diffusely involving both lungs.2 Homogenous opacification suggesting lobar or segmental airway obstruction is uncommon.3 Bronchoscopically, KS is manifest by multiple rounded cherry-red to purpuric raised lesions distributed throughout the endobronchial tree.4-6 We describe a patient in whom extensive submucosal KS resulted in complete lobar and segmental endobronchial obstruction in the absence of primary skin manifestations.

CASE REPORT

A 29-year-old man with AIDS presented with a productive cough and dyspnea. Bilateral wheezing was noted on auscultation of the lungs. Cutaneous examination was notable for the absence of skin lesions. Two months earlier, he had been diagnosed as having Pneumocystis carinii pneumonia at bronchoscopy and was treated successfully. No endobronchial lesions were present at that time.

During his current evaluation, the chest radiograph revealed complete opacification of the right upper lobe (RUL) and lingula (Fig 1) with mild volume loss of the RUL. Chest computed tomography also demonstrated small pleural effusions and small (1 cm in the longest dimension) pretracheal nodes (Fig 2).

At bronchoscopy, diffuse bronchial mucosal erythema and edema were seen with complete endobronchial obstruction of the RUL and lingular orifices by submucosal infiltration. A cherry-red submucosal lesion was present on the anterior wall of the right main-stem bronchus. Endobronchial biopsy specimens of the abnormal mucosa of RUL and lingula orifices were consistent with KS. All cultures and special stains including Gomori methenamine-silver stains and acid fast were negative for pathogens. Results of cytologic study were nondiagnostic.

DISCUSSION

Pulmonary involvement by infectious or neoplastic disease occurs in more than 80 percent of all HIV-infected patients. While the most common infection is Pneumocystis carinii pneumonia, KS is the most common malignancy associated with HIV infection. Kaposi's sarcoma presents predominantly in the homosexual or bisexual subgroup, and has been reported in up to one fourth of the AIDS population.6 Pulmonary involvement occurs in approximately 20 percent of AIDS patients with cutaneous KS1 but endobronchial KS is uncommon in the absence of cutaneous involvement. A presumptive diagnosis of pulmonary KS can often be made on the basis of classical clinical, ra-

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FIGURE 1. Posteroanterior chest radiograph shows opacification of the right upper lobe and lingula. The minor fissure is elevated suggesting right upper lobe volume loss (arrow).

FIGURE 2. Computed tomographic scan of the chest demonstrates the homogenous opacification of the right upper lobe and lingula. In addition, small pleural effusions can be seen. Higher sections (not shown) showed mild paratracheal lymphadenopathy.
diagnostic, or bronchoscopic manifestations of these conditions, but considerable overlap with other AIDS-related complications may occur.

Radiographically, KS generally presents as a diffuse, poorly defined nodular pattern that may follow the bronchovascular bundles, diffuse linear densities, patchy inhomogenous lobar and segmental consolidation, or with no parenchymal abnormalities. The presence of pleural effusions and/or CT evidence of shotty mediastinal or hilar adenopathy may suggest pulmonary KS. Bronchoscopic inspection of the airways usually demonstrates cherry-red or purpuric raised oval or circular lesions that can be seen throughout the tracheobronchial tree. Although partial occlusion of lobar or segmental bronchi has been reported, total occlusion has not been well documented in the literature. Endobronchial biopsy specimens of KS are infrequently necessary because of the characteristic appearance of this lesion and the potential for excessive bleeding. In our patient, cytologic preparations were not helpful but endobronchial biopsy specimens proved diagnostic.

In our review of the literature, we were unable to find a previous report of bronchoscopically confirmed complete endobronchial obstruction due to KS in the absence of skin lesions. Impending upper airway obstruction and radiographic findings suggestive of lobar occlusion have been reported previously but most patients had peripheral nonpulmonary organ involvement. In three recent reports encompassing a total of 95 individuals with bronchopulmonary KS, lobar consolidation that could suggest endobronchial obstruction was noted in only three; in each case, cutaneous KS was also present. Despite the absence of skin lesions, our patient had complete opacification of both RUL and lingula (Fig 1) that suggested postobstructive pneumonia. Complete endobronchial obstruction was confirmed bronchoscopically.

We believe this to be the first report documenting complete endobronchial obstruction and associated postobstructive changes secondary to KS in the absence of cutaneous involvement. The possibility of endobronchial KS should be considered, therefore, when there is radiographic evidence of bronchial obstruction in the HIV-seropositive population even when cutaneous lesions are absent. Early recognition of this unusual clinical presentation should enable the physician to select the most appropriate approach for both prompt diagnosis and therapy.

REFERENCES

Sarcoidosis of the Middle Ear*
Felix J. Tyndel, M.D.; George S. Davidson, M.D.; Harry Birman, M.D., F.C.C.P.; Zdzislaw A. Modzelewski, M.D.; and John J. Acker, M.D.

We report the first case, to our knowledge, of sarcoidosis affecting the middle ear. (Chest 1994; 105:1582-83)

Sarcoidosis affects head and neck structures in 9 percent of cases. The following is, to our knowledge, the first reported case of sarcoidosis involving the middle ear.*

CASE REPORT

A 48-year-old black woman presented with a 6-month history of left-sided tinnitus, hearing loss, left ear "plugging," and ear pain. Three years earlier, investigation of cough and dyspnea revealed bilateral hilar and paratracheal lymphadenopathy on chest radiography. She was treated briefly with prednisone. Two years before, she was treated for bilateral iritis. There was a history of hyperthyroidism. She mentioned having reduced smell and taste, and pain in the right knee.

On examination, there was left tympanic membrane hypermia and immobility, a flat left tympanogram, submandibular, cervical, and inguinal lymphadenopathy, and reduced hearing on the left side. Computed tomographic evaluation revealed an expansile mass (Fig 1) involving the parotid, middle ear, mastoid, and occasionally the middle cranial fossa. The patient was treated with a combination of dexamethasone, albendazole, and azathioprine. She had complete response of her sarcoidosis and is undergoing a slow taper of her corticosteroids. Nodules and cutaneous lesions have also improved.

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FIGURE 1. Computed tomographic scan showing soft-tissue mass in the left middle ear (arrow) and left mastoid cell opacification.