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Kaposi's Sarcoma and *Pneumocystis* Pneumonia Among Homosexual Men — New York City and California

During the past 30 months, Kaposi's sarcoma (KS), an uncommonly reported malignancy in the United States, has been diagnosed in 26 homosexual men (20 in New York City [NYC]; 6 in California). The 26 patients range in age from 28-51 years (mean 39 years). Eight of these patients died (7 in NYC, 1 in California)—all 8 within 24 months after KS was diagnosed. The diagnoses in all 26 cases were based on histopathological examination of skin lesions, lymph nodes, or tumor in other organs. Twenty-five of the 26 patients were white, 1 was black. Presenting complaints from 20 of these patients are shown in Table 1.

Skin or mucous membrane lesions, often dark blue to violaceous plaques or nodules, were present in most of the patients on their initial physician visit. However, these lesions were not always present and often were considered benign by the patient and his physician.

A review of the New York University Coordinated Cancer Registry for KS in men under age 50 revealed no cases from 1970-1979 at Bellevue Hospital and 3 cases in this age group at the New York University Hospital from 1961-1979.

Seven KS patients had serious infections diagnosed after their initial physician visit. Six patients had pneumonia (4 biopsy confirmed as due to *Pneumocystis carinii* (PC)), and one had necrotizing toxoplasmosis of the central nervous system. One of the patients with *Pneumocystis* pneumonia also experienced severe, recurrent, herpes simplex infection; extensive candidiasis; and cryptococcal meningitis. The results of tests for cytomegalovirus (CMV) infection were available for 12 patients. All 12 had serological evidence of past or present CMV infection. In 3 patients for whom culture results were available, CMV was isolated from blood, urine and/or lung of all 3. Past infections with amebiasis and hepatitis were commonly reported.

TABLE 1. Presenting complaints in 20 patients with Kaposi's sarcoma

Presenting complaint	Number (percentage) of patients
Skin lesion(s) only	10 (50%)
Skin lesions plus lymphadenopathy	4 (20%)
Oral mucosal lesion only	1 (5%)
Inguinal adenopathy plus perirectal abscess	1 (5%)
Weight loss and fever	2 (10%)
Weight loss, fever, and pneumonia (one due to <i>Pneumocystis carinii</i>)	2 (10%)

Since the previous report of 5 cases of *Pneumocystis* pneumonia in homosexual men from Los Angeles (1), 10 additional cases (4 in Los Angeles and 6 in the San Francisco Bay area) of biopsy-confirmed PC pneumonia have been identified in homosexual men in the state. Two of the 10 patients also have KS. This brings the total number of *Pneumocystis* cases among homosexual men in California to 15 since September 1979. Patients range in age from 25 to 46 years.

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Editorial Note: KS is a malignant neoplasm manifested primarily by multiple vascular nodules in the skin and other organs. The disease is multifocal, with a course ranging from indolent, with only skin manifestations, to fulminant, with extensive visceral involvement (2).

Accurate incidence and mortality rates for KS are not available for the United States, but the annual incidence has been estimated between 0.02-0.06 per 100,000; it affects primarily elderly males (3,4). In a series of 92 patients treated between 1949 and 1975 at the Memorial Sloan-Kettering Cancer Institute in NYC, 76% were male, and the mean age was 63 years (range 23-90 years) at the time of diagnosis (5).

The disease in elderly men is usually manifested by skin lesions and a chronic clinical course (mean survival time is 8-13 years) (2). Two exceptions to this epidemiologic pattern have been noted previously. The first occurs in an endemic belt across equatorial Africa, where KS commonly affects children and young adults and accounts for up to 8% of all cancers (3). Secondly, the disease appears to have a higher incidence in renal transplant recipients (4-9) and in others receiving immunosuppressive therapy (10-12).

The occurrence of this number of KS cases during a 30-month period among young, homosexual men is considered highly unusual. No previous association between KS and sexual preference has been reported. The fulminant clinical course reported in many of these patients also differs from that classically described for elderly persons.

The histopathologic diagnosis of KS may be difficult for 2 reasons. Changes in some lesions may be interpreted as nonspecific, and other cutaneous and soft tissue sarcomas, such as angiosarcoma of the skin, may be confused with KS (13,14).

That 10 new cases of *Pneumocystis pneumonia* have been identified in homosexual men suggests that the 6 previously reported cases were not an isolated phenomenon (1). In addition, CDC has a report of 4 homosexual men in NYC who developed severe, progressive, perianal herpes simplex infections and had evidence of cellular immunodeficiencies. Three died, 1 with systemic CMV infection. The fourth patient is currently undergoing therapy. It is not clear if or how the clustering of KS, pneumocystis, and other serious diseases in homosexual men is related. What is known is that the patients with *Pneumocystis pneumonia* described in the previous report showed evidence of impaired cellular immunity and previous or current CMV infection (1). Furthermore, serologic evidence of past CMV infection and active shedding of CMV have been shown to be much more common among homosexual men than heterosexual men attending a sexually transmitted disease clinic (15). A specific serologic association with CMV infection has been demonstrated among American and European patients with KS (16, 17) and herpes-type virus particles have been demonstrated in tissue culture cell lines from African cases of KS (18). It has been hypothesized that activation of oncogenic virus during periods of immunosuppression may result in the development of KS (19). Although immunosuppression often results in CMV infection, it is not yet clear whether CMV infection precedes or follows the above-mentioned disorders.

Although it is not certain that the increase in KS and PC pneumonia is restricted to homosexual men, the vast majority of recent cases have been reported from this group. Physicians should be alert for Kaposi's sarcoma, PC pneumonia, and other opportunistic infections associated with immunosuppression in homosexual men.

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