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## A Cluster of Kaposi's Sarcoma and Pneumocystis carinii Pneumonia among Homosexual Male Residents of Los Angeles and range Counties, California

In the period June 1, 1981-April 12, 1982, CDC received reports of 19 cases of biopsy-confirmed Kaposi's sarcoma (KS) and/or Pneumocystis carinii pneumonia (PCP) among previously healthy homosexual male residents of Los Angeles and Orange counties, California. Following an unconfirmed report of possible associations among cases in southern California, interviews were conducted with all 8 of the patients still living and with the close friends of 7 of the other 11 patients who had died.

Data on sexual partners were obtained for 13 patients, 8 with KS and 5 with PCP. For any patient to be considered as a sexual contact of another person, the reported exposures of that patient had to be either substantiated or not denied by the other person involved in the relationship (or by a close friend of that person).

Within 5 years of the onset of symptoms, 9 patients (6 with KS and 3 with PCP) had had sexual contact with other patients with KS or PCP. Seven patients from Los Angeles County had had sexual contact with other patients from Los Angeles County, and 2 from Orange County had had sexual contact with 1 patient who was not a resident of California. Four of the 9 patients had been exposed to more than 1 patient who had KS or PCP. Three of the 6 patients with KS developed their symptoms after sexual contact with persons who already had symptoms of KS. One of these 3 patients developed symptoms of KS 9 months after sexual contact, another patient developed symptoms 13 months after contact, and a third patient developed symptoms 22 months after contact.

The other 4 patients in the group of 13 had no known sexual contact with reported cases. However, 1 patient with KS had an apparently healthy sexual partner in common with 2 persons with PCP; 1 patient with KS reported having had sexual contact with 2 friends of the non-Californian with KS; and 2 patients with PCP had most of their anonymous contacts (greater than or equal to 80%) with persons in bathhouses attended frequently by other persons in Los Angeles with KS or PCP.

The 9 patients from Los Angeles and Orange counties directly linked to other patients are part of an interconnected series of cases that may include 15 additional patients (11 with KS and 4 with PCP) from 8 other cities. The non-Californian with KS mentioned earlier is part of this series. In addition to having had sexual contact with 2 patients with KS from Orange County, this patient said he had sexual contact with 1 patient with KS and 1 patient with PCP from New York City and 2 of the 3 patients with PCP from Los Angeles County. Reported by S Fannin, MD, County of Los Angeles Dept of Health Svcs, MS Gottlieb, MD, UCLA School of Medicine, JD Weisman, DO, E Rogolsky, MD, Los Angeles, T Prendergast, MD, County of Orange Dept of Public Health and Medical Svcs, J Chin, MD, State Epidemiologist, California Dept of Health Svcs; AE Friedman-Kien, MD, L Laubenstein, MD, New York University Medical Center, S Friedman, MD, New York City Dept of Health, R Rothenberg, MD, State Epidemiologist, New York Health Dept; Task Force on Kaposi's Sarcoma and Opportunistic Infections, CDC.

### Editorial Note

Editorial Note: An estimated 185,000-415,000 homosexual males live in Los Angeles County.\* Assuming that they had a median of 13.5 to 50 different sexual partners per year over the past 5 years,\*\* the probability that 7 of 11 patients with KS or PCP would have sexual contact with any one of the other 16 reported patients in Los Angeles County would seem to be remote. The probability that 2 patients with KS living in different parts of Orange County would have sexual contact with the same non-Californian with KS would appear to be even lower. Thus, observations in Los Angeles and Orange counties imply the existence of an unexpected cluster of cases.

The cluster in Los Angeles and Orange counties was identified on the basis of sexual contact. One hypothesis consistent with the observations reported here is that infectious agents are being sexually transmitted among homosexually active males. Infectious agents not yet identified may cause the acquired cellular immunodeficiency that appears to underlie KS and/or PCP among homosexual males (3-6). If infectious agents cause these illnesses, sexual partners of patients may be at increased risk of developing KS and/or PCP.

Another hypothesis to be considered is that sexual contact with patients with KS or PCP does not lead directly to acquired cellular immunodeficiency, but simply indicates a certain style of life. The number of homosexually active males who share this lifestyle may be much smaller than the number of homosexual males in the general population.

Exposure to some substance (rather than an infectious agent) may eventually lead to immunodeficiency among a subset of the homosexual male population that shares a particular style of life. For example, Marmor et al. recently reported that exposure to amyl nitrite was associated with an increased risk of KS in New York City (7). Exposure to inhalant sexual stimulants, central-nervous-system stimulants, and a variety of other "street" drugs was common among males belonging to the cluster of cases of KS and PCP in Los Angeles and Orange counties.

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\*Estimates of the homosexual male population are derived from Kinsey et al.(1) who reported that 8% of adult males are exclusively homosexual and that 18% have at least as much homosexual as heterosexual experience for at least 3 years between the ages of 16 and 55 years; and the U. S. Bureau of the Census, which reported that approximately 2,304,000 males between the ages of 18 and 64 years lived in Los Angeles County in 1980. \*\*Estimates of sexual activity are derived from data collected by Jay and Young (2), indicating that 130 homosexual male respondents in Los Angeles had a median of 13.5 different sexual partners in 1976, and from CDC data showing that 13 patients with KS and/or PCP in the Los Angeles area tended to report having more sexual partners in the year before onset of symptoms (median=50) than did homosexual males surveyed by Jay and Young.

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This page last reviewed 5/2/01