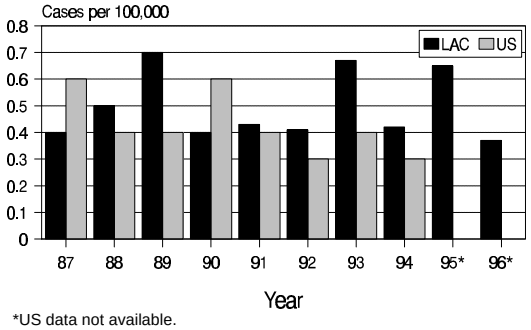
ENCEPHALITIS

CRUDE DATA	
Number of Cases	33
Annual Incidence[a]	
LA County	0.37
United States	N/A
Age at Onset	
Mean	41
Median	42
Range	< 1-87 yrs
Case Fatality	
LA County	33%[b]
United States	N/A

[a] Cases per 100,000 population.
[b] Excludes HIV-associated cases.

Figure 1

Encephalitis
Incidence Rates by Year
LAC and US, 1987-1996



*US data not available.

ETIOLOGY

Encephalitis, an inflammation of the brain, can result from infection with a number of different viruses. Laboratory confirmation of a specific etiologic agent is seldom obtained and is not required for reporting. Of particular public health concern in LAC are the arthropod-borne (arboviral) encephalitides, especially those due to St. Louis encephalitis (SLE) and western equine encephalitis (WEE) viruses.

DISEASE ABSTRACT

The incidence of viral encephalitis decreased in 1996 to its lowest level in ten years. Neither encephalitis outbreaks nor laboratory-confirmed cases of arboviral encephalitis were reported. As in previous years, evidence of SLE viral activity in the county was detected in sentinel chicken flocks towards the end of the mosquito season in November.

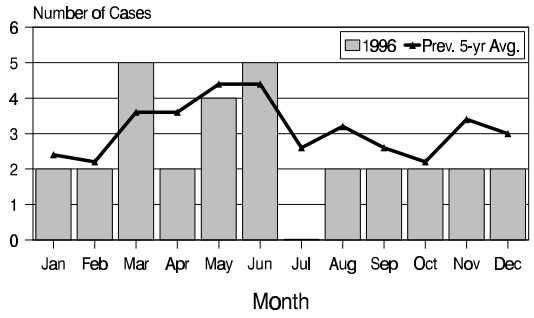
STRATIFIED DATA

Trends: The incidence of viral encephalitis decreased 45% from 0.67 cases per 100,000 population in 1995 to 0.37 cases per 100,000, well below the previous five-year average of

0.44 cases per 100,000. Because of the low frequency of occurrence of encephalitis, however, incidence rates should be interpreted with caution. Over the ten-year period shown in Figure 1, incidence of viral encephalitis has shown considerable year-to-year variability. The number of AIDS-related cases decreased 53% from 19 cases in 1995 to nine in 1996. Although the numbers are too small to draw any definite conclusions, recent advances in antiretroviral therapy may have contributed to the decrease in opportunistic central nervous system viral infections in persons with AIDS.

Figure 2

Encephalitis
Cases by Month of Onset
Los Angeles County, 1996



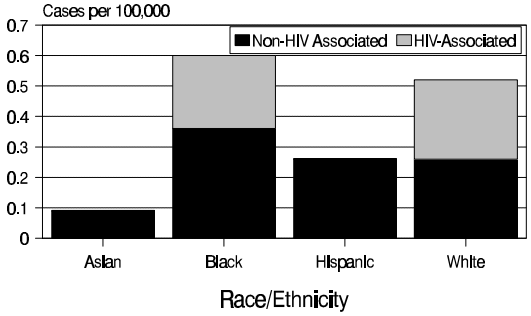
Seasonality: A seasonal increase was observed in the late spring and early summer months, consistent with the previous five-year average (Figure 2). No substantial seasonal variation was noted for AIDS-related cases (data not shown).

Age: The highest age-specific incidence rate (1.3 cases per 100,000 population) was observed among children less than one year of age (Figure 3). Incidence rates were lower for all age groups in 1996 compared with 1995, except for one- to four-year-olds; a 28% increase was noted in this age group. Typically, the young and the elderly are at greatest risk for symptomatic encephalitis.

Sex: The overall male-to-female rate ratio was 2.3:1. When AIDS-related cases were excluded, the male-to-female rate ratio was 1.6:1. The explanation for the male predominance in non-AIDS-related cases in 1996 is unknown.

Figure 3

Encephalitis
Incidence Rates by Race/Ethnicity
Los Angeles County, 1996

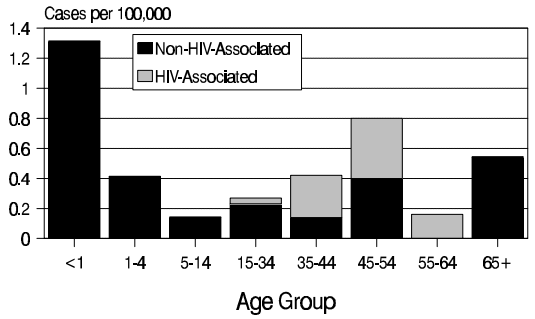


Race/Ethnicity: In 1996, the highest crude incidence rates were observed among Blacks (0.60 cases per 100,000 population), followed by Whites (0.53 cases per 100,000), Hispanics (0.26 cases per 100,000), and Asians (0.09 cases per 100,000) (Figure 4). Fifty percent of cases

among Whites and 40% among Blacks were AIDS-related; no cases occurred among Hispanics or Asians with AIDS in 1996. When AIDS cases were excluded, Blacks still demonstrated the highest incidence rate (0.36 cases per 100,000), followed by Hispanics (0.30 cases per 100,000) and Whites (0.26 cases per 100,000). Adjusting for age had little impact on race-specific incidence rates. Due to small numbers, however, incidence rates should be interpreted cautiously.

Figure 4

Encephalitis
Incidence Rates by Age Group
Los Angeles County, 1996



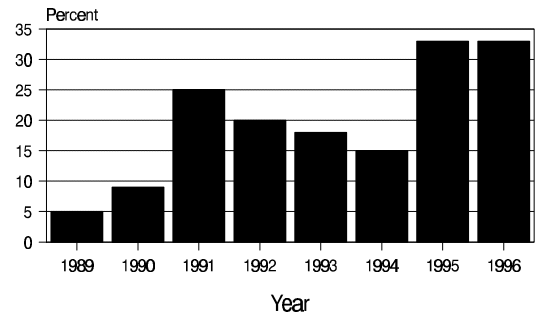
Location: Cases of encephalitis occurred throughout the County, with Southeast, Bellflower, East Valley, and Northeast Health Districts having the highest rates (1.27, 1.16, 0.73, and 0.56 cases per 100,000 population, respectively).

COMMENTS

In 1996, as in 1995, 33% of the reported cases of encephalitis occurred in patients with AIDS (Figure 5). The source for each of these reports was a death certificate filed with the Vital Records Unit. Since AIDS- and non-AIDS-associated cases differ in ascertainment methods, etiology, and public health significance, they should be analyzed separately.

Figure 5

Encephalitis
Proportion of Cases with Known HIV Infection
Los Angeles County, 1989-1996



In 1996, there were 8 deaths due to viral encephalitis in patients not known to be HIV-infected and at least four additional cases that resulted in significant long-term neurologic sequelae. A specific etiologic viral agent was identified for only six of these severe cases, despite extensive laboratory testing. Submitting specimens for viral culture earlier in the clinical course and/or serologic testing of convalescent specimens for cases that survived the acute illness might improve the diagnostic yield.

Table 1. Etiology of Viral Encephalitis Cases
Los Angeles County, 1996

Etiology	Number of Cases	Percent
AIDS-related		
Cytomegalovirus	6	18
Unknown	4	12
Primary		
Arbovirus	0	0
Enterovirus	0	0
Epstein-Barr virus	0	0
Herpes simplex virus	4	12
Varicella-zoster virus	3	9
Unknown	16	49
Post-infectious	0	0
Total	**33**	**100**