

No evidence for rapid subtype C spread within an epidemic in which multiple subtypes and intersubtype recombinants circulate

Abstract:

There are multiple subtypes of HIV-1 circulating worldwide, but recently, subtype C has become highly prevalent, particularly in certain geographic regions. It is unclear whether the dominance of subtype C or other subtypes is due to increased fitness of certain subtypes for transmission, or a founder effect in new, rapidly growing epidemics. To examine whether the prevalence of one subtype increases over the course of an expanding epidemic that includes several circulating subtypes, we examined the distribution of HIV-1 subtypes in Kenya from 1986 to 2000. We found no evidence for an increase in the prevalence of subtype C, which remained low throughout this approximately 15-year period. Interestingly, the percentage of subtype D present in the population decreased significantly over that period, with a slight increase in subtype A. Throughout that period, intersubtype recombinant viruses were detected, including at the early stages of the epidemic. This latter finding suggests that reinfection may have occurred in high-risk groups early in the epidemic, leading to intersubtype recombinant viruses that underwent secondary spread.