

Abstract

The effect of placental membrane inflammation on mother-to-child transmission (MTCT) of HIV-1 is reported. Placentas from HIV-1-infected women were examined as part of a perinatal HIV-1 project in Mombasa, Kenya. Polymerase chain reaction analysis was used to test for HIV-1 in the infants at birth and at 6 weeks. The maternal HIV-1 seroprevalence was 13.3% (298 of 2,235). The overall rate of MTCT of HIV-1 was 25.4%; polymerase chain reaction analysis revealed that of the 201 infants 6.0% (12) were already HIV-1-positive at birth (intrauterine transmission) and 19.4% (39) were infected during the peripartum period or in early neonatal life (perinatal transmission). The prevalence of acute chorioamnionitis was 8.8%, that of deciduitis was 10.8%, and that of villitis was 1.6%. Acute chorioamnionitis was independently associated with peripartum HIV-1 transmission but not with in utero MTCT (17.9% vs. 6.7%, respectively; adjusted odds ratio, 3.9; 95% confidence interval, 1.2-12.5; $p = .025$). Other correlates of perinatal MTCT were presence of HIV in the genital tract and in the baby's oral cavity and a high maternal viral load in peripheral blood. The adjusted population attributable fraction of 12.8% (95% confidence interval, 1.5%-22.8%) indicated that approximately 3% of MTCT could be prevented if acute chorioamnionitis was eliminated. We suggest that further research on the role of antimicrobial treatment in the prevention of chorioamnionitis and the reduction of peripartum MTCT needs to be performed.