

Comparison of assays to detect cytomegalovirus shedding in the semen of HIV-infected men



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Received 3 April 2000;

revised 10 July 2000;

accepted 11 July 2000.

Available online 1 November 2000.

Abstract

We sought to determine the optimal assays for cytomegalovirus (CMV) shedding in semen. Over a 2-month period, 149 HIV-1-infected men who have sex with men each provided up to three semen specimens. Specimens were tested for CMV by culture, rapid assay (shell vial) and polymerase chain reaction (PCR). By culture, 30% of seminal plasma and 28% of seminal cell specimens grew CMV. By rapid assay, results were 38 and 33%, respectively. By PCR, 56% of seminal cell specimens demonstrated CMV: 20% in a single semen specimen; 33% in two specimens; and 34% in all three specimens. Overall, 69% of men had CMV detected by PCR in at least one seminal cell specimen. By quantitative PCR, 14% had ten, 14% had 100, 16% had 1000, and 12% had 10 000 copies in 6.25 µl of semen analyzed. Adjusting for initial CD4+ cell count, men with CMV shedding demonstrated by PCR at the first visit were approximately four times as likely to shed CMV at a subsequent visit (RR 4.28, CI: 2.30–7.95). CMV shedding was associated with decreased CD4+ cell counts in peripheral blood ($P=0.05$). It is concluded that the PCR assay provided the greatest sensitivity among the three detection methods.

Author Keywords: Cytomegalovirus (CMV); HIV-1; Semen; CD4+; Homosexual men; Viral infections

Article Outline

[1. Introduction](#)