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Abstract (oral session)

Comparisons of serological responses to different doses of hepatitis A vaccine between HIV-positive and HIV-negative men who have sex with men in the era of combination antiretroviral therapy

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Background: Vaccination against hepatitis A virus (HAV) has been recommended for men who have sex with men (MSM). HIV-positive persons respond less favorably to HAV vaccination than HIV-negative persons. Whether an extra dose of HAV vaccine can improve serologic responses among HIV-positive persons remains controversial in the era of combination antiretroviral therapy (cART). Methods MSM who were seronegative for HAV and aged less than 40 years were enrolled from June 2009 to Dec 2010. HIV-positive MSM was provided with free-of-charge vaccination with 2 doses (administered at 0 and 24th week) or 3 doses (administered at 0, 4th, 24th week) of HAV vaccine, and HIV-negative MSM was provided with regular 2 doses of HAV vaccine (administered at 0 and 24th week). Primary end point of the study was seropositivity for HAV (anti-HAV antibody IgG) at 48th week of vaccination. Quantification of anti-HAV antibody was performed at 48th and 72th week of vaccination. Results: During the study period, 582 MSM were enrolled: 217 HIV-negative MSM and 140 HIV-positive MSM (94 [67.1%] on HAART) received 2-doses of HAV vaccine; and 225 HIV-positive MSM (113 [58.2%] on HAART) received 3-doses of HAV vaccine. All subjects had completed the planned 48 weeks of follow-up. The response rate at 48th week was 75.7% (106/140) and 76.4% (172/225) ($p=0.5$) for HIV-positive MSM who received 2 doses and 3 doses of HAV vaccine, respectively, and the rate was 88.5% (192/217) for HIV-negative MSM, according to intention-to-treat analysis with the last observation carried forward analysis. In multivariate analysis, HAV vaccination that was administered when the subject's CD4 count was greater than 200 cells per cubic millimeter was significantly associated with a better serologic response. The geometric mean titers of anti-HAV antibody IgG were 75.5, 212.8, and 280.4 mIU/mL ($p<0.001$) in the 2-dose HIV-positive, 3-dose HIV-positive, and HIV-negative MSM group, respectively. Conclusions: An extra dose of HAV vaccine does not improve serologic responses in HIV-positive persons at 48 weeks of follow-up in the cART era. HIV-positive persons with CD4 counts greater than 200 cells per cubic millimeter at vaccination is associated with better serologic responses.