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A novel human pegivirus HPgV-2 (HPgV-1) is tightly associated with HCV/HIV-1 co-infection

Background: HPgV-2 is a novel blood-borne human pegivirus that mainly infects hepatitis C virus (HCV) and Human Immunodeficiency Virus type one (HIV-1) co-infected subjects. We have investigated the prevalence of HPgV-2 in China, high risk population and its association with HCV and HIV-1.

Methods: A cross-sectional study was conducted with both blood donors and HCV and HIV-1 infected patients in Guangzhou, China. All subjects were screened for anti HPgV-2 and HPgV-2 RNA. Demographic and clinical information were obtained from electronic medical records.

Results: We tested 8198 serum or plasma samples. Only 0.15% (6/4017) of healthy blood donors was positive for anti HPgV-2, while negative for HPgV-2 RNA. No HPgV-2 viremia was detected in HBV or HIV-1 singly infected individuals. The relatively high frequency of HPgV-2 infection was observed in 1.23% (30/2440) and 0.29% (7/2440) of HCV-infected persons by serological assay and RT-PCR, respectively. Furthermore, anti HPgV-2 and HPgV-2 RNA were detected in 8.91% (18/202) and 3.47%

(7/202) of HCV and HIV-1 co-infected subjects. The prevalence of HPgV-2 in HCV and HIV-1 dually-infected people who inject drugs (PWID) was 12.9% in Guangdong and 15.9% in Sichuan. HCV/HIV-1-infected PWID represents a high-risk population for HPgV-2 infection. HPgV-2 persistent infection was documented in about 30% of anti HPgV-2 positive individuals.

Conclusion: Our results indicate the rarity of HPgV-2 infection in the general population and tight association with HCV, in particular with HCV and HIV-1 co-infection. HPgV-2 appears not to worsen HCV-related liver damage. Our study provides new findings about the association of HPgV-2 and HCV/HIV-1 and the impact of HPgV-2 infection on HCV replication and pathogenesis.

Speaker Biography

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