Incidence of hepatitis C virus infection among Egyptian healthcare workers at high risk of infection.

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Abstract:

BACKGROUND: Hepatitis C virus (HCV) is a global health threat with Egypt having the highest worldwide prevalence. Evaluation of the efficacy of a preventive HCV vaccine, such as those currently in Phase I/II trials, requires a cohort with a high-risk exposure to HCV. OBJECTIVE: To identify a reliable cohort for evaluating preventive HCV vaccines, we studied HCV incidence among HCW in a hospital where almost 85% of patients are HCV-infected. STUDY DESIGN: Of 717 HCW negative for HCV-antibodies (anti-HCV) at baseline, 651 were followed up and tested for seroconversion twice annually for an average of 504 ± 154 days. Those reporting a needle-stick injury were additionally tested for both HCV antibodies and RNA monthly for a total of four months. RESULTS: Two subjects (0.31%) had anti-HCV and HCV-RNA seroconversion with an overall incidence of 2.04/1000 person-years and a 4.8% incidence among the 21 subjects who reported a needle-stick injury. Two additional subjects had viremia without detectable anti-HCV. Two of the four subjects were among 21 with reported needle-stick injuries (9.5%) and another had surgery. All four were nurses providing direct patient care. CONCLUSIONS: Our results show that both transient and persistent viremia were detectable in this high-risk cohort of HCW and suggest that absence of anti-HCV in two of the subjects may be due to low-dose viral exposures. These data indicate that HCV infections acquired from documented injuries during direct patient care are frequent in Egypt and can guide selection of eligible HCW suitable for preventive HCV vaccine trials.

Published In:

J Clin Virol. , Vol.57,No.1 ,