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Hepatitis A vaccine administration: comparison between jet-injector and needle injection

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Abstract

Introduction: Type A hepatitis virus (HAV) is a serious health problem throughout the world and can be spread via fecal–oral contact. Both immune globulin and an HAV vaccine provide protection, but the vaccine gives complete protection. Efficacy of methods of vaccination in relation to the formation of anti-HAV antibodies is unclear; thus, this study seeks to determine if significant differences exist between the syringe as compared to the jet injection technique.

The purpose of this study was to compare in a randomized trial Bioject jet-injection system to a needle-syringe method. To determine if a significant difference between these two methods in seroconversion rates or geometric mean titers of anti HAV antibody occurs at day 15, 30, and 210 days after vaccination.

Method: Anti-HAV IgG(-) adult hospital employees were randomized to receive 1440 EL.U of hepatitis a vaccine (HAVRIX[®]) in 2 doses by either needle or jet-injector (Biojector[®]) system at month 0 and 6. HAV seroconversion titer results were measured by the Boehringer–Mannheim method.

Results/discussion: A higher proportion of persons who received HAV vaccine via the Biojector[®] seroconverted with anti-HAV level ≥ 20 mIU at day 15, 30, and month 7 when compared with a needle injection.

Side-effect profiles reported by participants in both methods were below those identified in current published and insert information, but the Biojector[®] had greater local reactivity in all categories when compared to the needle method. © 2000 Elsevier Science Ltd. All rights reserved.

Keywords: Hepatitis A antibody formation; Biojector[®]; HAVRIX[®] vaccine