Two decades of hepatitis B vaccination in mentally retarded patients: effectiveness, antibody persistence and duration of immune memory.

Abstract:
Institutionalized mentally retarded subjects are well-known to be at-risk for HBV infection. We studied the persistence of vaccine-induced anti-HBs antibodies and the robustness of the HBsAg-specific immune memory in this population, 18-20 years after the first vaccine dose. Non-immune residents of 4 institutions were immunized in 1984-1986. In 2004, 207 subjects were bled to determine humoral and cellular immune memory. Immune response to a booster dose was evaluated in subjects with anti-HBs level<100 IU/L. Four subjects showed anti-HBc seroconversion, without clinical implications. Pre-booster anti-HBs levels<100 IU/L were found in 45 subjects (22%); 34/39 (87%) responded with a rapid and high anti-HBs titer to the booster dose. Robust T and B cell memory was present pre- and post-booster. Overall results confirm that hepatitis B vaccines are highly effective and immunogenic, and confer long-term persistence of antibodies and immune memory in an at-risk population.