

ABSTRACT

Since the introduction of vaccination against hepatitis B virus (HBV) infection in South Africa, at least one case of infection despite vaccination has occurred. The purpose of this study was to determine whether this infection was the result of mutations within the region of the surface (S) gene encoding the *a* determinant epitopes of the hepatitis B surface antigen, which permitted viral vaccine-escape. HBV DNA was extracted from the serum and liver tissue of the patient and amplified within the complete 3 215 bp genome and S gene, respectively. Following cloning, sequencing revealed a minor population displaying unique or uncommon S gene mutations that resulted in C138R, C139R, K141R, P142L, T143A, N146D, and T148A amino acid substitutions in the clones from the serum, and C139Y and D144N in the clones from the liver. Such isolates may represent South African HBV vaccine-escape mutants that caused chronic infection in the host prior to their reversion to wild-type.