ORIGINAL ARTICLE

Change of Hypervariable Region Proteins of Hepatitis C Virus E2 in Two Infants

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SUMMARY

Two infants vertically infected with hepatitis C virus (HCV) were followed-up from 3 or 4 months to 2.5 years of age. We analyzed five complementary DNA (cDNA) clones from each patient and compared the genetic drift of the HCV E2 gene hypervariable region (HVR) between the two infants and between the infants and their mothers within the two families. The HCV strains initially detected in infant 1 were identical to those found in her mother, while the HCV strains initially detected in infant 2 were very different from those of her mother. The mutation rate of HVR-1 proteins was higher in mother 1 than in mother 2, but was 1.6 to 2-fold higher in infant 2 than in infant 1 during the follow-up period. Serum ALT levels or serum HCV-core protein activity did not correlate with the mutation rates of HVR-1 proteins in either infant. However, the mutation rate of HVR-1 proteins significantly increased from 6 months of age in both infants, with concomitantly increased serum HCV antibody (anti-HCV) levels. (Clin. Lab. 2001;47:105-110)