Genotyping of occult hepatitis B virus infection in Egyptian hemodialysis patients without hepatitis C virus infection

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Summary *Background:* Occult hepatitis B viral infection is the presence of hepatitis B viral nucleic acids in the serum and/or liver in the absence of hepatitis B surface antigen.

Aim*:* The study aimed to determine the prevalence of occult hepatitis B virus infection among hepatitis C virus-negative haemodialysis patients and to identify theirgenotypes.

Methods: of 144 patients on maintenance haemodialysis, 50 hepatitis B surface anti-gen and hepatitis C virus nucleic acid-negative patients were selected according to strict inclusion criteria to avoid the effect of confounding variables. The following investigations were done: serum AST and ALT; HBsAg; HBcAb; HCV-Ab; HCV-RNA; andHBV-DNA.

Results*:* Positive hepatitis B viral nucleic acid was confirmed in 12/144 (8.3%) haemodialysis patients and 12/50 (24%) in our study group (occult infection). Mean haemodialysis periods for negative patients and occult hepatitis B virus patients were 27.3 ± 18.8 and 38.4 ± 8.14 months, respectively, and this difference was significant (p-value = 0.02). Mean alanine transaminase levels were20.27 ± 5.5 IU/L and 25.3 ± 9.6 in negative patients and occult infection patients, respectively. This difference was non-significant. Aspartate transaminase levels were21.4 ± 10.2 IU/L and 27.3 ± 4.6 IU/L, respectively, in negative patients and infectedpatients; this difference was significant (p-value = 0.03). Half (6/12) of the positivesamples belonged to genotype 'B', 33.3% (4/12) to 'C', and 16.6% (2/12) to genotype'D'.Conclusion: OBI is likely among hemodialysis patients even without HCV coinfection(24%). Genotype D cannot be the only genotype distributed in Upper Egypt, as thecurrent study reported relatively new results that 50% of the patients with occult Bcarry genotype B, 33.3% carry genotype C and only 16.6% carry genotype D.