

Utility of hepatitis C virus RNA as the screening test for diagnosing hepatitis C virus infection in hemodialysis patients

Sir,

Hepatitis C virus (HCV) is a major life threat among hemodialysis (HD) patients with prevalence of 4.3%-45.2% in India.^[1] Major challenge is that anti-HCV which is usually a reliable marker for HCV is often negative in HD patients despite the presence of significant viremia, making molecular tests the most reliable tests for screening HCV infection in HD patients.^[2] Goal of this study was to find out the utility of HCV RNA as a screening marker for HCV infection in HD patients.

In this one year retrospective study, blood samples of 410 chronic kidney disease (CKD) patients were included. Anti-HCV was tested by chemiluminescence microparticle immunoassay (Architect i1000SR, Abbott Diagnostics, USA), and HCV RNA was tested by real-time PCR (Abbott m2000rt). Institutional Ethics Committee of our institute approved the study protocol.

Among 410 CKD patients, 128 (31%) were on HD and overall HCV infection among 128 HD patients was seen in 17 (13.3%) patients with 12 (9.4%) patients positive for anti-HCV and 12 (9.4%) patients positive for HCV RNA. A total of 7 (5.5%) patients were positive for both anti-HCV and HCV RNA suggesting active infection. A total of 5 (4%) patients were HCV RNA negative but anti-HCV positive with low signal/cut-off ratio who persistently remained HCV RNA negative till 1 year follow-up, thus suggesting false anti-HCV positivity.^[3] Totally 5 (4%) asymptomatic HD patients with undetectable antibodies were HCV RNA positive proving that anti-HCV alone is not a good screening marker for HCV detection among HD patients table 1. Our study results correlate well with two other studies.^[4,5]

Seronegative HCV infection among HD patients can be due to longer window period in these immunocompromised individuals^[4] or due to the presence of antigen-antibody immune complexes, resulting in low anti-HCV response.^[2] Hence, we recommend that all HD patients should be screened by both anti-HCV and HCV RNA to rule out HCV infection with high sensitivity.

Table 1: Hepatitis C virus viral markers in hemodialysis patients in the study group (n=128)

| HCV viral markers in HD patients | Total number (%) |
|--|------------------|
| Total anti-HCV positive | 12 (9.4) |
| Total HCV RNA positive | 12 (9.4) |
| Anti-HCV positive and HCV RNA positive | 7 (5.5) |
| Anti-HCV positive and HCV RNA negative | 5 (4) |
| Anti-HCV negative and HCV RNA positive | 5 (4) |

HD = Hemodialysis, HCV = Hepatitis C virus

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Conflicts of interest

There are no conflicts of interest.

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