Examining Diagnostic Discordance of Hepatitis C Virus Infection in Maintenance Hemodialysis Patient.

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Background

- Hepatitis C virus (HCV) infection is common in maintenance hemodialysis (MHD) patients and associated with poor clinical outcomes.
- Hence, reliable methods to detect HCV infection in MHD patients are crucial.
- We previously noted that HCV transcription-mediated amplification (TMA), a sensitive qualitative HCV RNA molecular test, may identify HCV-infected MHD patients not detected by antibody enzyme immunoassay (EIA).

Results

- HCV infection seroprevalence was 12% (n=39).
- 19 of these subjects were viremic by TMA.
- 14% of the seronegative subjects were TMA+.
- bDNA was performed in 62 (out of 65) TMA+ patients with 27 having quantifiable viral loads (>3,200 copies (qc)/mL), ranging from 7,464 to 33,174,712 qc/mL, including 13/19 (68%) concordant TMA+/EIA+ and 14/46 (30%) discordant TMA+/EIA- patients.

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<thead>
<tr>
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<th>TMA+</th>
<th>TMA-</th>
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<tbody>
<tr>
<td>EIA+</td>
<td>19 (6%)</td>
<td>20 (6%)</td>
</tr>
<tr>
<td>EIA-</td>
<td>46 (14%)</td>
<td>244 (74%)</td>
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<td>65 (20%)</td>
<td>264 (80%)</td>
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Conclusions

- Detectable HCV RNA by bDNA was more prevalent among those TMA+/EIA+ (68%) than TMA+/EIA- (30%).
- Although approximately 1/3 of TMA+/EIA- patients had supportive evidence of HCV infection via bDNA, further investigation is needed to define whether the remainder of the TMA+/EIA- patients, almost 10% of the cohort, have true HCV infection and if so the clinical relevance of these findings.

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