Chronic liver disease assessment in HIV mono-infected individuals: HeAL (HIV non-viral Liver disease) Study Update

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Introduction
• Chronic liver disease (CLD) is a major cause of morbidity and mortality in people living with HIV (PLWH)
• Following advances in viral hepatitis treatment, future CLD is likely to be due to non-viral aetiologies
• Potential contributors include
  • Alcohol
  • Metabolic syndrome
  • Antiretrovirals

Aims
Investigate the prevalence and predictors of CLD in PLWH with abnormal liver function

Methods
• Inclusion criteria:
  • PLWH
  • Negative viral hepatitis serology
  • Elevated transaminases over 6 months
• Consenting individuals prospectively assessed by:
  • AUDIT questionnaire
  • Screening for metabolic syndrome
  • Transient elastography (Fibroscan ®)
• Study definitions
  • Significant hepatic steatosis (SHS): controlled attenuation parameter (CAP) ≥237dB/m
  • Significant hepatic fibrosis (SHF) liver stiffness measurement (LSM) ≥7.1kPa
  • Cirrhosis: LSM ≥11.5kPa

Results
• Of 429 eligible individuals, 237 recruited since 2015
  • Mean age 52.3±9.6 years,
  • 92.8% male,
  • 96.6% with undetectable viral load,
  • Mean HIV duration 15.8±7.5 years
• Overall prevalence of SHS was 63% (n=149), and SHF was 21% (n=49), of whom 36 (73%) had SHS and 18 (37%) had cirrhosis.
• On binary logistic regression, HDL and AUDIT score were significantly associated with SHF whereas CD4 baseline, HIV duration, BMI, hypertension, diabetes, and duration on ARV were not.
• Predictors of SHS included BMI, HDL and AUDIT score.
• No classical risk factors were identified in 8 (16%) individuals with SHF but they had significantly shorter HIV duration and higher peak ALT compared to those with risk factors for SHF (Table 1).

Conclusions
• There is high liver disease burden in PLWH with elevated transaminases; nearly 2/3 having SHS and 1/5 SHF.
• MS risk factors and alcohol use appear to predict both SHS and SHF
• However, one sixth of individuals with SHF have no identifiable classical risk factors
• This raises the real possibility of immune dysregulation or direct hepatotoxicity of HIV

Table 1

<table>
<thead>
<tr>
<th></th>
<th>No risk factors n=8</th>
<th>Risk factors n=41</th>
<th>Significance</th>
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</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>45.5±9.6</td>
<td>52.6±9.7</td>
<td>P=0.069</td>
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<tr>
<td>HIV duration (years)</td>
<td>9.1±4.5</td>
<td>16.0±7.5</td>
<td>P=0.006*</td>
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<tr>
<td>Baseline CD4 (10⁶/L)</td>
<td>421±240</td>
<td>425±649</td>
<td>P=0.407</td>
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<tr>
<td>ALT peak (iu/L)</td>
<td>112.6±79.6</td>
<td>70.2±40.2</td>
<td>P=0.048*</td>
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Recommendations
• Screening strategies for CLD in PLWH alone should be considered to ensure timely Hepatology input
• Emphasis to be placed upon appropriate counselling regarding alcohol intake and weight loss for these individuals