Liver-related deaths are a leading cause of mortality in persons receiving continuous antiretroviral therapy for HIV infection.

Liver fibrosis is a predictor of liver-related and non-liver-related mortality in non-alcoholic fatty liver disease (NAFLD).

Local screening for liver injury in persons living with HIV infection is largely based on inclusion of hepatobiliary enzymes as part of routine blood monitoring. However, liver function tests in isolation are not specific at diagnosing or excluding liver disease.

Data from a community population aged over 16 years suggests that whilst an abnormal ALT or AST was predictive of liver disease (hazard ratio = 4.2), only 1.9% of those with an abnormal value were diagnosed with significant liver disease within 5 years of the test.

The prevalence of liver fibrosis in people living with HIV who have abnormal liver function tests was evaluated.

Results Table 1: Overview of results

150 patients (28%) with documented FibroScan® on retrospective review of the case notes

Patient characteristics Number of patients %
Male 124 / 150 82.7
Median age last attendance 48 (range 30 - 79)

Patient on combination antiretroviral therapy* 84 / 150 56.0
V L ≤ 50 copies/mL 66 / 84 78.6
Abnormal ALT 99 / 150 66.0
Grade 1 (≥ 3 x ULN) 87 / 99 87.9
Grade 2 (≥ 5-10 x ULN) 7 / 99 7.0
Grade 3 (≥ 10-20 x ULN) 3 / 99 3.0
Grade 4 (> 20 x ULN) 2 / 99 2.0

FibroScan® score: 5.4 kPa (range 2.8 – 72 kPa)

Results Table 2: Predicted fibrosis stage by FibroScan®

FibroScan® Value (kilopascals)* Number of patients (%) ALT at baseline (%)
<7.0 (F0 – F1 fibrosis) 110 / 150 (73.3) Normal = 35 / 110 (31.8) Abnormal = 75 / 110 (68.2)
7-9 (F2 fibrosis) 23 / 150 (16.0) Normal = 8 / 23 (34.8) Abnormal = 15 / 23 (65.2)
10-14 (F3 fibrosis) 7 / 150 (4.7) Normal = 4 / 7 (57.1) Abnormal = 3 / 7 (42.9)
>14 (F4 fibrosis) 10 / 150 (6.7) Normal = 3 / 10 (30.0) Abnormal = 7 / 10 (70.0)

Diagnosis (number patients)
N AFD L (57) No cause identified (21)
Viral hepatitis* (18)
Alcohol (9)
Antiretroviral therapy (4)
Autoimmune hepatitis (1)
Genetic haemochromatosis (1)

Conclusion
The prevalence of significant liver fibrosis in our HIV cohort with abnormal liver function tests was 26.7%. ALT appeared to correlate poorly with presence of liver fibrosis and significant and reversible liver disease may be missed if fibrosis assessment tools are not included in screening algorithms.

References