Causes and outcomes of cirrhosis and hepatocellular carcinoma in southern Malawi: an observational cohort and community case-control study

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Background

- African countries experience the highest age-standardised mortality from liver disease globally
- Due to limitations in laboratory diagnostics and imaging, the relative importance of different causes of liver disease in Africa is largely unknown
- More data is needed on outcomes and potential causes of liver disease to inform effective public health strategies
- Thus, we studied patients with cirrhosis and hepatocellular carcinoma (HCC) presenting to a tertiary hospital in southern Malawi to ascertain aetiology and outcomes, and develop intervention strategies

Results

Study recruitment

708 screened	
373 eligible of which 272 consented	
216 included	
138 with cirrhosis	78 with HCC

Causes

- Hepatitis B was the main attributable cause of cirrhosis (PAF 25.5% (95% CI:17.1–33.1)) and HCC (PAF 73.2% (61.0–81.6))
- HIV was the second most important attributable factor (PAF 23.6% (13.5–32.5) for cirrhosis and 20.2% (7.4–31.2) for HCC)
- For cirrhosis, autoimmune hepatitis (4%), primary biliary cholangitis (3%) and hepatitis C (1%) were uncommon causes and 16% showed ultrasonographic features of schistosomiasis
- No patients were viraemic for hepatitis D or E

Outcomes

- Patients with HCC were median 40 years old (IQR 35-50) and median survival was 40 days (95% CI:30–51)
- Among patients with cirrhosis, 60% remained alive in care at 6 months

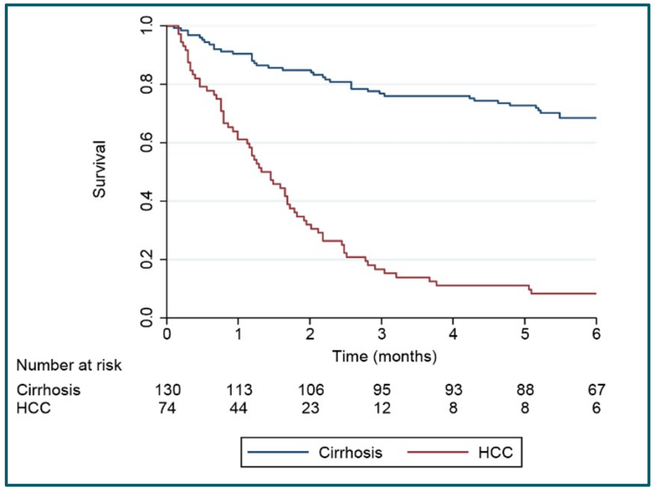
Methods

Study design
- Observational cohort and community case-control study

Study setting and population
- Patients with suspected liver disease presenting to Queen Elizabeth Central Hospital in Blantyre, Malawi
- Community control group from Ndirande, Blantyre

Data collection
- Prospective screening for 18 months, with follow-up for 6 months
- Recruitment of community controls for hepatitis B/C from a serological survey randomly selected from a demographic census

Data analysis
- Estimation of population attributable fractions (PAF) of contributing factors for cirrhosis and HCC
- 6-month mortality among patients with cirrhosis/HCC was modelled using a Cox proportional hazards regression



Kaplan Meier survival curves: 6-month outcomes among with cirrhosis and HCC

Conclusion

Causes of liver disease in southern Malawi
- Leading causes: Hepatitis B and HIV
- Secondary causes: Alcohol, autoimmune liver disease and smoking
- Further investigation is needed for the role of schistosomiasis and its contribution to liver disease

Need for improved diagnosis and earlier presentation
- HCC and cirrhosis are diagnosed at an advanced stage, with an abysmal prognosis
- There is an urgent unmet need for expanded community HBV screen-and-treat programmes to prevent rising liver-related diseases and potentially improve outcomes