Letter: single liver stiffness measurement predicts liver-related mortality in chronic hepatitis C.

especially those undergoing a prior inferior vena cava stent placement, which greatly increased the technical difficulty of TIPSS. Second, covered stents did not significantly decrease the incidence of shunt dysfunction, but increased the risk of hepatic encephalopathy. Finally, the prognosis of BCS was similar between early and converted TIPSS groups. Similarly, our study also supported the use of BCS-TIPSS score in predicting the prognosis of BCS patients undergoing TIPSS.

ACKNOWLEDGEMENT

Declaration of personal and funding interests: None.

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Letter: single liver stiffness measurement predicts liver-related mortality in chronic hepatitis C

P. A. McCormick*, E. Elrayah*, B. Hughes†, D. Schmidt* & J. Moloney†

*Liver Unit, St Vincent's University Hospital, University College Dublin, Dublin, Ireland.
†The National Drug Treatment Service, Health Service Executive (HSE), Dublin, Ireland.
E-mail: a.mccormick@ucd.ie

doi:10.1111/apt.12777

Sirs, We read with interest the recent article on sofosbuvir signalling, a new era in treatment for patients with hepatitis C.[1] Intravenous drug use is the commonest mode of hepatitis C virus (HCV) transmission in Western countries, but treatment rates are very low.[2, 3] We hypothesised that liver stiffness measurement may help to identify high-risk patients and facilitate targeted treatment with the new oral antiviral agents.[4, 5] We measured liver stiffness (Fibroscan, Echosens) in a consecutive cohort of 84 patients attending a community-based drug treatment clinic and followed them up for 5 years.[6]

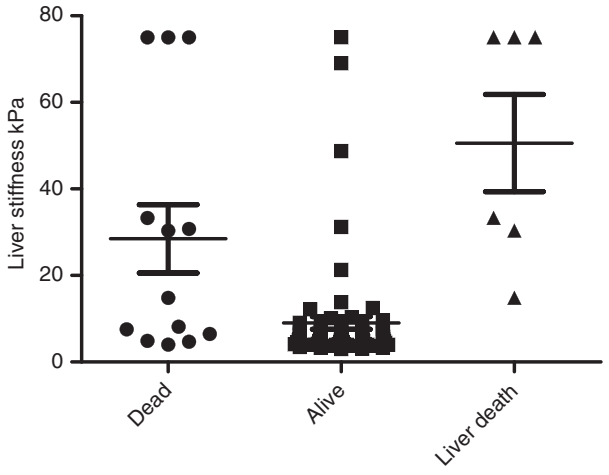

Figure 1 | Mean liver stiffness values were significantly higher in patients who died compared with survivors (28.5 kPa ± 7.9 vs. 9.0 ± 1.5, $P = 0.0045$) and for patients with liver-related death compared with survivors (50.6 ± 11.2, $P < 0.0002$).

There were 66 males with mean age 33.8 years, and mean body mass index of 25.9. HCV antibodies were present in 65 (77.4%) and HCV RNA in 49 (58.3%). None had HBsAg or HIV. Heavy alcohol use was identi-

fied in 31 patients (37%). Over 5 years, 13 died (15%); 6 liver-related deaths, 1 probably liver-related, 5 drug overdoses and 1 laryngeal carcinoma. Five of six patients, who died of liver disease, were HCV RNA-positive and all had heavy alcohol use.

The relationship between initial liver stiffness and mortality is shown in Figure 1. Of 12 patients with an initial liver stiffness >14 kPa, seven died and four developed liver failure. All 12 had heavy alcohol use. Liver stiffness values were significantly higher in patients with a history of heavy alcohol use (23 ± 4.5 vs. 5.6 ± 0.3 $P < 0.0001$).

In this study, a single liver stiffness measurement was highly predictive of liver-related mortality in unselected patients attending a drug treatment clinic. The technique was readily accepted and provided both rapid feedback and understandable results. It may be a useful tool in prioritising and encouraging engagement with treatment. Unfortunately, the high prevalence of alcohol misuse may undermine the benefits of antiviral therapy in this group.

ACKNOWLEDGEMENTS

Declaration of personal interests: Prof McCormick has been an investigator in antiviral Hepatitic C virus drug trials sponsored by Abbvie Ltd and has participated in Advisory Boards organised by Janssen, MSD, Abbvie and BMS.

Declaration of funding interests: None.

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Letter: chronic *Salmonella typhi* carrier status and gall-bladder cancer

S. C. Arya & N. Agarwal

Sant Parmanand Hospital, Delhi, India.
E-mail: subhashbapaji@gmail.com

doi:10.1111/apt.12778

Sirs, We compliment investigators from the Sydney Medical School[1] for a systemic review and meta-analysis of the relationship between chronic *Salmonella typhi* carrier stage and gall-bladder cancer[1] and believe that exact role of *S. typhi* in the aetiology of biliary tract cancer should be investigated in suitable animal models.

Nevertheless, a genetic characterisation of *S.typhi* in such cases would be beneficial. That would either establish or rule out the presence of abnormal flagellar antigenic components responsible for such cases. A *S. typhi* strain carrying the flagellar antigen variant H1-j was associated with acute appendicitis in a Chinese woman in Hong Kong.[2]

In our opinion, it would be desirable to ascertain any genetic aberrations among such cases in host factors. For example, a genetic association in humans between typhoid fever and MHC class II and III genes was evident in individuals with blood culture-confirmed typhoid fever and control subjects from two distinct geographical locations in southern Vietnam. Human leucocyte antigen (HLA)-DRB1 and HLA-DQB1 alleles (the gene that encodes tumour necrosis factor (TNF)-alpha (TNFA [−238] and TNFA [−308], the gene that encodes lymphotoxin-alpha, and alleles of the TNF-alpha microsatellite HLA-DRB1*0301/6/8, HLA-DQB1*0201-3, and TNFA*2 (−308)) were associated with susceptibility to typhoid fever.[2]

On the other hand, HLA-DRB1*04, HLA-DQB1*0401/2, and TNFA*1 (−308) were associated with disease resistance.[3] Furthermore, initial studies on the role of genetic factors in susceptibility to non-alcoholic fatty liver disease point towards an important role of HLA in the pathogenesis of non-alcoholic fatty liver disease.[4]