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Mild COVID-19 Despite End Stage Liver Disease

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Dear Sir,

With over 12 million confirmed cases and worldwide mortality exceeding 550,000 persons, COVID-19 infection has quickly become a global threat to public health[1].

In patients with chronic liver disease, emerging reports suggest an increased risk of morbidity and mortality from COVID-19. Given the immunocompromised status of these patients and high rates of comorbidities, one might expect increased susceptibility to infection. Whether the disease course in these patients is more severe, with increased rate of complications and mortality has yet to be firmly established.

We discuss a 41-year-old Caucasian unemployed gentleman with advanced liver disease who contracted COVID-19. This patient's background history was significant for alcohol related liver disease (Child Pugh B, MELD 17), severe chronic thrombocytopenia <10 $x10^9$/L, BCLC stage C hepatocellular carcinoma deemed for best supportive care, grade 1 oesophageal varices and poorly controlled type 2 diabetes. The patient was actively drinking, with an alcohol intake exceeding 60 units weekly. Cirrhosis was diagnosed 7 years prior and complicated by recurrent hospital admissions for sepsis and hepatic encephalopathy.

The patient presented with fever and cough to the emergency department in mid-March, three weeks following the index case of COVID-19 in Ireland. On arrival, he was tachycardic and febrile however was not in respiratory distress. Laboratory investigations were not significantly deranged from baseline; platelets 3 $x10^9$/L, INR 1.42, bilirubin 31. Chest X-ray examination was normal and arterial blood gas showed no evidence of respiratory failure. This patient tested positive for COVID-19. As per hospital policy, this patient received supportive management with no additional specific medical therapy for COVID-19.

The inpatient course was relatively uncomplicated without the need for supplementary oxygen. The patient remained clinically stable, albeit persistent thrombocytopenia. There was no decompensation of liver disease such as ascites, encephalopathy or variceal haemorrhage. He was discharged well 14 days post diagnosis.

An initial pooled analysis from early COVID data in China, suggested that chronic liver disease was not strongly associated with progression to severe disease in COVID-19[2].

Since then, studies emerging from Europe and the US have shown that patients with chronic liver disease may indeed have worse outcomes. A recent US study of 2780 COVID-19 patients has also shown a significantly increased risk of mortality in those with known liver disease compared to patients without liver disease. Furthermore, the relative risk of mortality increased if the patient had cirrhosis[3].

Recent data released from the COVID-Hep international registry would further support these findings. Of the 833 cohort of patients with chronic liver disease who developed COVID-19, 379 patients were cirrhotic, with alcohol related liver disease being the leading aetiology. Of this cirrhosis subgroup, 45% had further decompensation of their chronic liver disease, with an overall 33% mortality[4].

This patient had established end stage liver disease, untreated liver cancer, diabetes and had already survived years longer than the initial prognosis he was afforded. In contrast with studies showing adverse outcomes in those with cirrhosis, COVID-19 was not a significant burden for this patient.

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