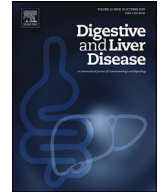




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# Digestive and Liver Disease

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## Correspondence

### Multiple benefits of implementing a hepatology rapid access clinic highlighted by the COVID-19 pandemic

To the Editor,

Decompensated cirrhosis represents a significant burden for the healthcare system, ranking 11th as the most common cause of death worldwide [1]. The healthcare costs for the care of cirrhotic patients are high due to their frequent admissions with decompensations and prolonged length of stay, with significant impact on the quality of life of the cirrhotic patient, with often poor outcome [2,3].

A Hepatology Rapid Access Clinic (HRAC) is a valuable tool in addressing the high usage of resources, with previously described evidence of reduced risk of early readmission and mortality at 2 months in the cirrhotic population [4].

We demonstrated how the cancellation of our HRAC (a face to face clinic, led by junior doctors, aimed at assessing patients recently discharged from hospital and review their clinical progress based on biochemical and clinical parameters) during the COVID-19 pandemic, has impacted the care and the outcome of our population of patients with chronic liver disease (Table 1).

We analysed all admissions of adult patients diagnosed with liver cirrhosis with an episode of decompensation (ascites, hepatic encephalopathy, upper gastrointestinal bleeding, hepato-renal syndrome, coagulopathy, jaundice) to a District General Hospital in East London from 1 September 2019 to 31 August 2021. Patients who were <18 years-old or patients admitted with compensated liver disease but presenting with other complaints than a decompensating episode (e.g alcohol withdrawal, trauma, COVID-19 without decompensation, etc) were excluded. The patients were put into 4 groups of 6 months' duration each: control group (pre-pandemic); wave 1 (first wave of COVID-19); wave 2 (second wave of COVID-19); and wave 3 (third wave of COVID-19, after lockdown restrictions were lifted). Recurrent admissions of the same patients were registered as separate encounters. The severity of advanced liver disease was assessed with the UKELD scoring index.

A total of 172 decompensated cirrhotic patients were admitted via ED. Baseline demographic data (age, gender, ethnicity and aetiology of liver disease) were similar when compared across the 4 groups.

Maybe not surprisingly, tense ascites was the most common presentation throughout the pandemic and we also found that patients were admitted with a more severe LD compared to control group, based on UKELD score (Fig. 1).

These data corroborate with the finding that of the patients presenting with ascites, the ones already known to the HRAC service were more likely to require admission since the pandemic started, as pre-pandemic they would have been managed as outpatient. Interestingly, patients with others types of decompensa-

tion who had previous follow-ups in HRAC also attended ED in a higher number during first and third wave.

Length of stay, clinical outcome (number of deaths) and readmissions within 30 days were similar in all groups, within the limitations of our small numbers. However, a trend to prolonged length of stay, higher number of deaths and increase in readmissions within 30 days rate was observed during wave 1 and 2.

What we demonstrated is that the reallocation towards emergency care of NHS resources resulting in the cancellation of our HRAC, was associated with a higher number of admissions with decompensated cirrhosis, regardless of the type of decompensation. Surprisingly, our results showed that during the COVID pandemic the length of stays of our cirrhotic patients were longer, which is in contrast with the expectation that high number of COVID cases would have encouraged early discharges. We suspect that this is a result of a higher number of liver patients being managed under a general medical team rather than specialist hepatologists, resulting in a higher number of unnecessary investigations and inefficient bed flow. It is also possible that as the severity of liver disease on admission was higher, it required more prolonged interventions.

As previously mentioned, ascites accumulation was the most common type of presentation for admission, particularly during the first and second waves of the pandemic. Prior to the pandemic, this type of presentation was mainly managed in our HRAC, as a result of cancellation of these clinics, patients with refractory ascites presented to ED and needed hospital admission for treatment.

However, of interest, a similar trend was also seen in patients with non-ascites complications of cirrhosis (encephalopathy, UGIB, hepato-renal syndrome, coagulopathy, jaundice), who presented in a higher number to the hospital. We suspect this is because in the pre-pandemic time they were clinically and biochemically closely monitored at the time of their scheduled regular paracentesis, allowing adjustment of their home medications to prevent decompensations. So, our data showed that our HRAC relieves the pressure put on the ED and Gastroenterology ward, not only by managing patients with ascites in the day unit, but also preventing, diagnosing and treating other types of decompensating events in the outpatient setting.

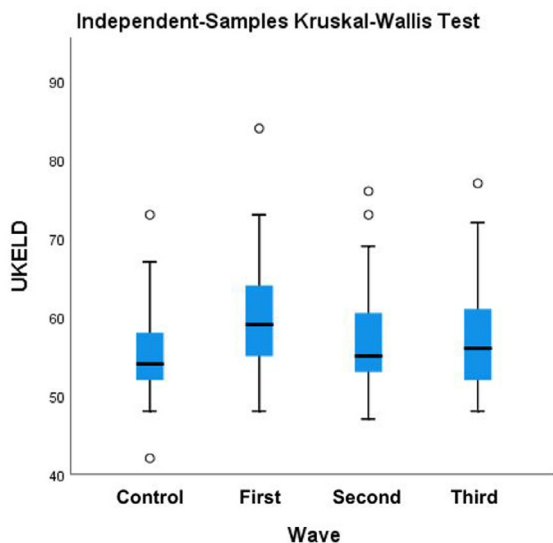
As strong supporters of a more sustainable and environmental-friendly practice of medicine, we would hope that an HRAC service could be established as a remote clinic to promote conversion to telemedicine.

However, we do acknowledge some limitations to a fully remote service, especially related to the challenging engagement of our cirrhotic population (by nature of their social background or by clinical cognitive difficulties – ie if encephalopathic), therefore we believe that a hybrid service (80% remote, 20% face-to-face) might represent the best option and will be an important key to successful reduction in our carbon footprint.

**Table 1**

**Results summary.** Baseline demographic data, clinical data and admission related data are described with corresponding p values (IBM® SPSS statistic software v23.0 was used; non-parametric test Kruskal Wallis with Bonferroni adjustment - for continuous variables; nominal variables - Chi-squared tests with pairwise z-tests and Bonferroni correction. A p value <0.05 was considered to have statistical significance.

	Control group/Date 09.19–02.20	Wave 1/Date 03.20–08.20	Wave 2/Date 09.20–02.21	Wave 3/Date 03.21–08.21	P value
<b>No of admissions</b>	33	51	48	40	
<b>Age</b> (mean+/-SD, years)	54.7+/-15.3	52.4+/-14.9	51.5+/-10.8	50.2+/-11.7	0.631
<b>Gender</b> (M/F)	57.6%/42.4% N=19/14	60.8%/39.2% N=31/20	66.7%/33.3% 32/16	67.5%/32.5% N=27/13	0.767
<b>Ethnicity</b> (non-white/white)	48.5%/51.5%	47.1%/52.9%	56.2%/43.8%	42.5%/57.5%	0.623
<b>Aetiology of LD</b>	60.6%	62.7%	68.8%	80%	0.247
Alcohol vs others	(N=20)	(N=32)	(N=33)	(N=32)	
<b>Decompensation</b>	48.5%	49%	52%	42.5%	>0.05
Ascites vs others					
<b>Presentation with first decompensation</b>	36.4%	35.3%	33.3%	20%	>0.05
UKELD	<b>55.48+/-6.13</b>	<b>59.8+/-7.21</b>	57.02+/-6.13	57.2+/-6.65	<b>0.023</b>
(median+/-Q25&75)					0.197 0.318
<b>COVID positive</b>	<b>0%</b>	<b>2%</b>	<b>12.5%</b>	<b>2.5%</b>	<b>0.023</b>
<b>Medical team</b>	<b>90.9%/9.1%</b>	<b>60.8%/39.2%</b>	<b>29.2%/70.8%</b>	<b>85%/15%</b>	<b>&lt;0.001</b>
<b>Gastro/GenMed</b>					
<b>Follow up status &amp; ascites</b>	<b>9.1%(N=3)</b>	<b>25.5%(N=13)</b>	<b>35.4%(N=17)</b>	<b>30%(N=12)</b>	<b>0.08</b>
<b>Follow up status &amp; non-ascites</b>	<b>33.3% (N=11)</b>	<b>31.4% (N=16)</b>	<b>22.9%(N=11)</b>	<b>30% (N=12)</b>	<b>0.08</b>
<b>Need for ITU</b>	18.2%	23.5%	27.1%	10%	0.2
<b>Length of stay</b> (mean +/-SD, days)	13.3+/-16.6	19.75+/-60	19.02+/-52	13.4+/-12.52	0.6
<b>Outcome</b> (deaths)	15.2%	21.6%	29.2%	10%	
<b>Readmission within 30 days</b> (of total no of patients)	5.2%	5.2%	7%	2.9%	0.186
	N=9	N=9	N=12	N=5	0.33



**Fig. 1.** Comparison of UKELD score (median +/- quartiles 25 75) between the 4 groups.

In summary, the setting of a forced closure of our HRAC clinic due to the COVID-19 healthcare emergency created a unique opportunity to demonstrate the vital role of this service in our hospital and has given us insight on how important face to face clinics are to prevent hospitalizations. The HRAC provides a safety net, whereby patients can be managed safely in the community, without the risks associated with and costs of secondary care hospital admissions.

By relieving the pressure on the health care system, they have a role for significant positive impact on both clinical and financial

aspects, especially during the time of a pandemic, when the risks associated to a hospital admission are significantly higher within our often frail and vulnerable-to-infection population.

The positive value of HRACs is likely to be reflected even more significantly in bigger hospitals serving a wider population, therefore we would recommend this practice to become standardized and would advocate for them to be kept running throughout any future healthcare emergencies.

#### Conflict of interest

None declared.

#### Acknowledgements

We would like to kindly thank Venus Liang, Luke Lake, Etienne Chew and Irina Mladenova for collecting some of the data.

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#### Financial support statement

No financial support given.

#### Author contributions

Aruna Dias and Ji Jade King – concept and design of the study. Mirela Chitul - collecting data. Andrei Chitul and Paul Balanescu

– statistics. All authors contributed to drafting, writing the article, critically revised it and finally approved it.

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