

## Introduction:

In 2022 we reported an alarming fall in patients with hepatocellular carcinoma (HCC) referred to our Newcastle-upon-Tyne NHS foundation Trust HPB multidisciplinary team (MDT), in the year immediately following the pandemic, compared to the preceding year. Furthermore, we documented a fall in cases detected by surveillance, with a proportional increase in cases presenting symptomatically [Geh et al. *BMJ Open Gastroenterology*, 2022]. We have assessed the ongoing impact on patients with HCC.

## Methods:

We identified patients with a new diagnosis of HCC referred to our HPB MDT, comparing 12 months pre-pandemic (March 2019–Feb 2020), pandemic (March 2020–Feb 2021) and March post pandemic (March 2021–February 2022). Mode of presentation, TNM and BCLC stage and survival were compared. Survival was also compared to a historical MDT cohort (632 patients, 2000 and 2010)[Dyson et al, *J Hepatol*, 2014].

## Results:

Numbers of referrals started to recover post pandemic, (161 patients, compared to pre-pandemic 190 and pandemic 120). Cases detected by surveillance also recovered, although incidental cases continued to fall and symptomatic cases continued to rise (See Table 1,  $p < 0.001$ , Pearson Chi Square). Cases detected at TNM Stage I recovered (52% compared to 35.8% pandemic), but overall, the majority (78%) were classed as BCLC Stage C or D, reflecting the demographic of our elderly population with metabolic syndrome associated comorbidities. Overall survival was not significantly different between the years of the pandemic and was closely associated with BCLC stage. Notably, compared to our historical 2000-2010 cohort [2], overall survival was significantly improved (2000-2010 median 10.7 months, compared to pre-pandemic 15.5, pandemic 15.9 and post pandemic 16.6;  $p < 0.001$ ), driven by marked improvements in survival in those with BCLC-C HCC. Furthermore, restricted to BCLC-C, comparing the post-pandemic year to the pre-pandemic and pandemic years combined, median survival was 21.0 months compared to 12.8 months,  $p = 0.046$ .

Table 1	Surveillance	Incidental	Symptomatic	
2019-2020	64	80	46	190
2020-2021	32	40	48	120
2021-2022	69	34	58	161
Total	165	154	152	471

## Conclusions:

This audit highlights, despite the re-introduction of surveillance programs, late stage detection for the majority of patients with HCC. Loss of incidental/rising symptomatic cases may reflect the pressures on the NHS and failure to deliver routine care. It is possible, given pressures on MDTs, that 'lost' patients are unreferral cases with impaired liver function, receiving supportive care in regional hospitals. However, it is evident that for those referred with classed BCLC-C stage disease, the changes in treatments available (medical therapies, selective internal radiotherapy, SABR) have improved survival. These will be discussed, highlighting the need to continue surveillance and refer patients, whatever their stage, to tertiary centres.