Hepatocellular Carcinoma service and Clinical Nurse Specialists

Queen Elizabeth Hospital Birmingham

University Hospital Birmingham (UHB) NHS Trust, England

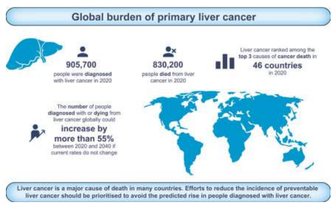
Building healthier lives

Hepatocellular Carcinoma Service:

Background:

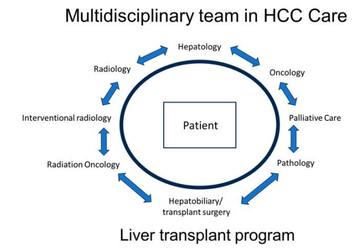
Hepatocellular Carcinoma (HCC) means cancer has started from the cells of the liver (hepatocytes). HCC most common primary liver cancer, increasing prevalence and mortality worldwide. Number of new cases and deaths could rise by >55% by 2040 (Rumgay et al, 2022).

Global burden of primary liver cancer in 2020 and predictions to 2040
(Rumgay et al, Journal of Hepatology 2022)



Cirrhosis is the primary risk factor for HCC: however, these patients are often asymptomatic, making them difficult to identify for surveillance. Diagnosis is made with contrast-enhanced imaging and/or liver biopsy. Most of the HCC patients suffer with 2 disease conditions which is underlying chronic liver disease (cirrhosis) and HCC.

Unlike other cancers, patient prognosis is not only influenced by the cancer itself, but also by the severity of cirrhosis complications, such as: ascites, hepatic encephalopathy and gastro-oesophageal bleeding (Pinter et al. 2016). Consequently, the complexity of managing Hepatocellular carcinoma is still challenging due to the careful consideration of the tumour stage as well as the cirrhosis background. (Colagrande et al. 2016).

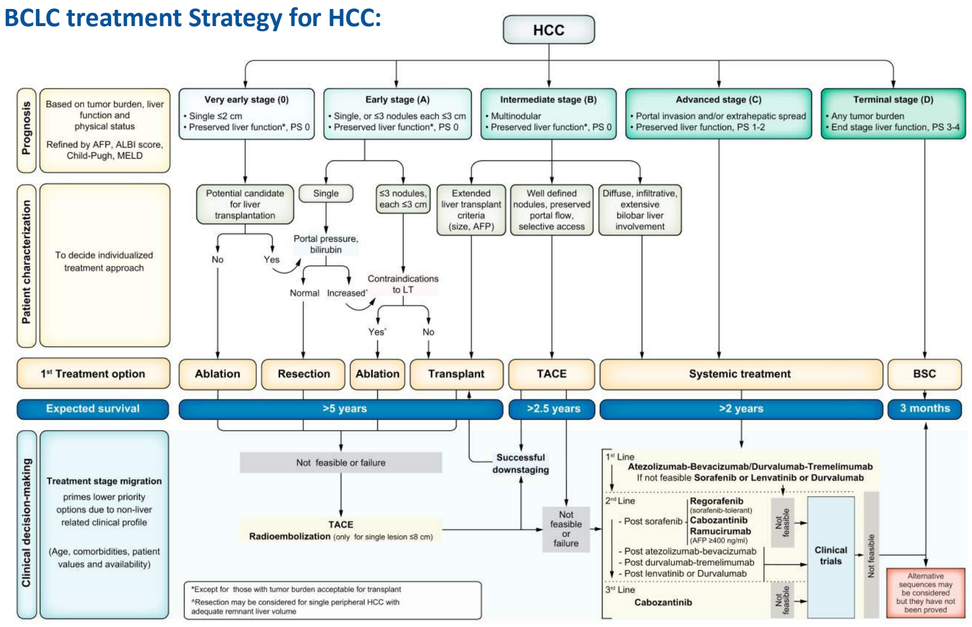


Kinsey E, Lee HM. Management of Hepatocellular Carcinoma in 2024: 'The Multidisciplinary Paradigm in an Evolving Treatment Landscape'. Cancers. 2024; 16(3):666.

Previously QEHB had a HPB MDT (Hepatobiliary Pancreatic Muli-disciplinary Team) every week and HCC cases were discussed in the HPB MDT. With the growing number of HCC cases, now QEHB have a dedicated HCC MDT every week along with HPB MDT.

QEHB MDT follow the validated Barcelona Clinic Liver Cancer treatment Strategy (BCLC) for HCC. The BCLC treatment strategy not only depends on tumour staging and patient performance status, but also how well the liver function is preserved, which is based on the degree of cirrhosis.

BCLC treatment Strategy for HCC:



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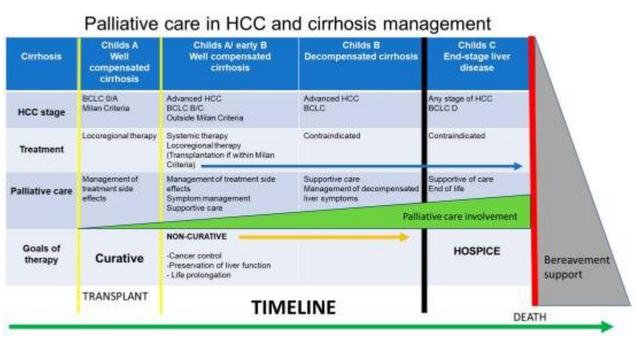
HCC without extrahepatic disease or vascular invasion may be cured with surgical intervention, involving either resection or liver transplantation. Locoregional therapies include tumour ablation, used for minimally invasive cure of early disease, and transarterial chemoembolisation (TACE), used for control of intermediate disease. Both ablation and TACE are also used for downstaging as a bridge to transplantation.

More advanced HCC can be controlled with intravenous immunotherapy with one or more monoclonal antibodies (e.g. atezolizumab and bevacizumab) or drug-based systemic therapies involving either an oral kinase inhibitor (e.g. sorafenib, lenvatinib or regorafenib) or Best outcomes in HCC management require a multidisciplinary approach, including nutritional support and palliative care.



The level of involvement of palliative care will defer depending on the cirrhosis stage, HCC stage, treatment and aims of treatment.

Recently the Hepatology team has highlighted the need for early intervention of palliative care for HCC patients in order to assist with symptom management and psychological support, regardless of whether the treatment aim is curative or non-curative. This dual nature of the disease increases the complexity of patients care.

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HCC Oncology Trials at QEHB:

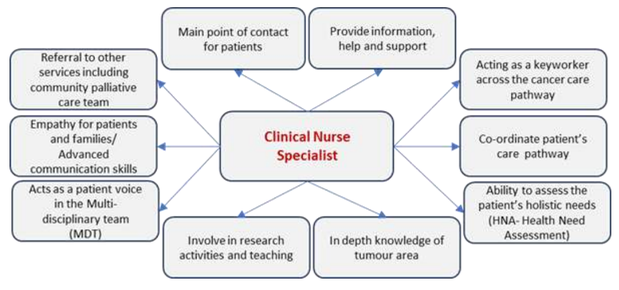
* IMbrave 251 – randomised phase 3 trial of Atezolizumab + Lenvatinib vs Lenvatinib alone in patients who have progressed on prior Atezolizumab/Bevacizumab. Key eligibility – must have had one prior scan showing at least stable disease on Atezolizumab/Bevacizumab, biopsy proven HCC, Childs A, PS0/1.
* PRIMER1 – perioperative trial of pembrolizumab/lenvatinb in resectable HCC (neodjuvant for 6 weeks, followed by surgery, followed by adjuvant pembrolizumab for 12 months). Key eligibility – resectable HCC, Childs A, PS0/1.
* CUBIC – phase I/II trial of Durvalumab + CXCR2 inhibitor in advanced HCC. This trial is imminently opening. Key eligibility – up to one prior line of systemic therapy, biopsy confirmed HCC, willing to have a biopsy pre treatment and on treatment, Childs A, PS0/1.
* Biomarker study for patients on Atezolizumab/Bevacizumab (Immunotherapy)

For patients to make informed decisions about their treatment it is important to educate them on the rationale behind the treatment decisions made at the multidisciplinary team meetings (MDT) (Cantwell, 2020).

Clinical Nurse Specialists:

QEHB (UHB NHS Trust), England is a regional centre for HCC cancer care, with approximately 35-40 patients referred to our HCC MDT each week. Appropriate information, help and support are vital at every stage of the patient's journey. Clinical Nurse Specialists (CNSs) play an integral role by co-ordinating the treatment care pathway. Currently, Hepatobiliary Pancreatic (HPB) CNSs are covering the three tumour sites: Pancreatic Cancer, Bile duct Cancer (Cholangiocarcinoma) and HCC.

Role of the CNSs in Cancer Care



Clinical Nurse Specialist's role:

From MDT:

- Support HCC MDT and complete the work created from the MDT
- Co-ordinate and chase any urgent clinic appointments
- Liaise with other colleagues within and outside the Trust
- Contact patients with MDT outcome if appropriate

From HCC/ Surgical/Oncology Clinics:

- Clinic list preparation
- Liaise with the tracker group for investigations e.g. lesional/non-lesional biopsy and functional scan
- Telephone follow-up for new patients who are not seen by a CNS in a clinic consultation
- Liaise with SABR (Stereotactic Body Radiotherapy) team regarding SABR appointment if needed
- Liaise with Acute Oncology Service (AOS) if needed
- Referral to Liver dietitian if needed
- Monitor HPBCNSs team emails
- Ward visits to patients

Nurse led clinics: (follow-up patients - 2 weeks post TACE and 2 weeks post oral anticancer treatment)

- Arrange post treatment bloods
- To arrange post TACE CT/MRI scan to assess the treatment response

Research /Teaching/ Publications:

- Delivering HCC teaching sessions on the ward and Liver/ Oncology outpatient clinic
- Supporting and organising HCC business meetings
- Working towards completing Internship Programme for Allied Health Professionals to combine research into clinical practice for patient benefit (NHS Health Education England)
- Delivering oral presentations in national and international conferences
- Sharing knowledge through publications in HCC tumour site for good clinical practice

Publications on HCC:

* *Jan 2022: Hydes TJ, Cuthbertson DJ, Graef S, Berhane S, Teng M, Skowronska A, Singh P, **Dhanaraj S,** Tahrani A, Johnson PJ. The Impact of Diabetes and Glucose-Lowering Therapies on Hepatocellular Carcinoma Incidence and Overall Survival. Clinical Therapeutics. 2022 Jan 22: S0149-2918(22)00004-2. doi: 10.1016/j.clinthera.2021.12.011. https://pubmed.ncbi.nlm.nih.gov/35078642/*
* *June 2021: Philip J. Johnson1, **Sofi Dhanaraj**2, Sarah Berhane3, Laura Bonnett4 & Yuk Ting Ma5 The prognostic and diagnostic significance of the neutrophil-to-lymphocyte ratio in hepatocellular carcinoma: a prospective controlled study. British Journal of Cancer volume 125, pages 714–716 (2021) https://www.nature.com/articles/s41416-021-01445-3*
* *Dec 2020: **S.Dhanaraj**, T.Shah, J.O'Rourke and S.Shetty. Hepatocellular carcinoma: Update on treatment guidelines. Gastrointestinal Nursing 2020: 18: S18- S26. [Invited Article] https://doi.org/10.12968/gasn.2020.18.Sup10.S18*
* *Sep 2015: **Sofi Dhanaraj**., Chronic viral hepatitis and hepatocellular carcinoma in immigrant populations, Cancer Nursing Practice 2015, 14 (7), 1 – 5 [Invited Article]. Chronic viral hepatitis and hepatocellular carcinoma in immigrant populations (rcni.com)*

Challenges:

HPB CNSs cover a large cohort of Hepatobiliary pancreatic cancer patients, primarily covering new patients within the HCC service. There is a low capacity to cover HCC f/u patients. The need for a dedicated CNS service is becoming very apparent, especially in a high-volume centre like QEHB.

Summary:

HCC is a growing public health issue, with increasing incidence and mortality rate worldwide. Cirrhosis is the primary risk factor for HCC thus limiting the management and prognosis of HCC. Management depends on the tumour stage, liver function reserve, and patient performance status. This requires a multidisciplinary approach for ideal treatments. CNS plays an integral role in the delivery of a high-quality service. QEHB (UHB NHS Trust) is a regional centre for HCC cancer care with a growing cohort of HCC patients. Therefore, there is a need for HCC dedicated CNS service to streamline the pathway of HCC patient care.

References:

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- *Pinter, M., Trauner, M, Peck-Radosavljevic, M. and Sieghart, W. (2016). 'Cancer and liver cirrhosis: implications on prognosis and management'. ESMO open, 1(2), e000042. https://doi.org/10.1136/esmoopen-2016-000042*

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