

Stages in development and management of primary liver cancer.

Yong- Lu*

Barts Cancer Institute, Queen Mary University of London (QMUL), United Kingdom

Abstract

The field of primary liver cancer has changed very fast. In old days this disease was barely known to scientists and developers, and this could be detected only at the last stages and was treated based on the symptoms of the patients. At present it has become an area of huge research interest – there have been major breakthroughs in the understanding and emphasizing of its pathogenesis, as well as in the development of diagnostic tools and therapeutic options. Still, the clinical management of Hepato Cellular Carcinoma (HCC) and Intra hepatic Cholangio Carcinoma (iCCA) remains complicated and requires a multifaceted management team including hepatologists, oncologists, liver surgeons, radiologists and pathologists.

Keywords: HBV; Intra hepatic Cholangio Carcinoma; Molecular; Cancer

Accepted on July 15, 2020

The advancement in the understanding of the pathogenesis, early detection, diagnosis, staging and treatment of liver cancer has been limitless. Just in the case of HCC, it would be difficult to select the most related advances, which sometimes correlated with the most impactful manuscripts and breakthroughs in management. First, the direct association between HBV/HCV infection and HCC development was identified. In terms of prevention and surveillance, universal vaccination for HBV and surveillance with ultrasound (with/without alpha-fetoprotein measurements) have been established as providing clinical benefit in patients at risk. Non-invasive imaging-based criteria for HCC were already established in 2001. In terms of understanding the pathogenesis of the disease, major improvements have occurred since the initial discovery of p53 mutations, with the recent establishment of a mutational landscape and detailed molecular classifications. Regarding staging systems, Okuda staging was replaced in 1999 by the BCLC staging system, mostly used in the Western world, and the Hong-Kong staging system, used in more recent years in Asia. In terms of management, major advances in defining candidates for resection, transplantation and local ablation occurred between 1996–2001 with chemo embolisation established as standard of care by 2002-03. Since then, there have been no major improvements in outcomes for these patients, despite the refinements in techniques and novel devices. Assessment of response to loco regional therapies was first defined by EASL criteria and more recently with RECIST/modified RECIST (mRECIST) criteria. Major milestones have occurred in the management of advanced cases, from Sorafenib becoming the first systemic molecular

therapy effective in HCC, to the demonstration of clinical benefit with several tyrosine kinase inhibitors (Lenvatinib, Regorafenib, Cabozantinib and Ramucirumab) and the identification of immune checkpoint molecules as relevant therapeutic targets (alone or in combination regimens). Even combination strategies (i.e. Atezolizumab plus Bevacizumab) are emerging as the new gold standard for the coming years. All these drugs have complicated the sequence of treatments and the management of adverse events in these patients[1-5].

Conclusion

Liver cancer is a major global health problem whose incidence is on the rise. The improvement in the understanding of the pathogenesis, early detection, diagnosis, staging and treatment of liver cancer has been enormous. The landscape of molecular aberrations driving both hepatocellular carcinoma (HCC) and Intrahepatic Cholangio Carcinoma (iCCA) have been unraveled. Several breakthroughs have occurred in the prevention, surveillance and treatment of HCC. Particularly, management of patients at advanced stages has changed dramatically during the last decade with the advent of effective systemic therapies such as sorafenib, lenvatinib, regorafenib, cabozantinib and ramucirumab. iCCA has long been considered a difficult to treat disease with few therapeutic options. However, recent advances in our understanding of its molecular pathogenesis, as well as the development of adjuvant therapy (capecitabine) and new systemic treatments (gemcitabine and cisplatin) have paved the way for further innovations in the management of patients with iCCA. In this manuscript, we aimed to

highlight the main milestones in the medical history of primary liver cancer and report the most recent developments described within this special issue.

References

1. Bosch FX, Ribes J, Díaz M. Primary liver cancer: worldwide incidence and trends. *Gastroenterology.* 2004;127(5):5-16.
2. Bosch FX, Ribes J, Borràs J. Epidemiology of primary liver cancer. *Seminars liv dis.* 1999;19(03):271-285.
3. Liver Cancer Study Group of Japan. Primary liver cancer in Japan. Clinicopathologic features and results of surgical treatment. *Ann Surg.* 1990;211(3):277.
4. Deuffic S, Poynard T, Buffet L. Trends in primary liver cancer. *The Lancet.* 1998;351(97):214-215.
5. Nio K, Yamashita T, Kaneko S. The evolving concept of liver cancer stem cells. *Molecul cancer.* 2017;16(1):4.

*Correspondence to:

Yong- Lu
Barts Cancer Institute
Queen Mary University of London (QMUL)
United Kingdom
E-mail: yonglu@gmail.com