

Editorial

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# Interpretation of Chinese expert consensus on the whole-course management of hepatocellular carcinoma (2023 edition)

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## BACKGROUND

The whole-process management of malignant tumor patients is crucial for enhancing their prognosis and quality of life. Primary liver cancer is one of the most common malignant tumors in the world, of which hepatocellular carcinoma (HCC) accounts for 75%-85%<sup>[1]</sup>. In 2020, China reported nearly half of the global incidence and mortality rates for liver cancer<sup>[2]</sup>. Studies have shown that about 70% of HCC patients in China are diagnosed in the intermediate to advanced stages, and the recurrence rate after resection/local treatment is as high as 70% after 5 years<sup>[3]</sup>. HCC patients often have chronic liver disease and/or cirrhosis, which brings a heavy medical burden to patients and the country. Therefore, improving the overall prognosis for HCC has become a pressing concern in China. The challenges in the field, stemming from the insidious onset, high degree of malignancy, and significant heterogeneity of HCC, underscore the urgent need for addressing clinical diagnosis, treatment, and patient outcomes. Moreover, the current diagnostic and treatment landscape for HCC in China is fragmented and scattered across different departments and even hospitals. The only way to rectify this situation is by dismantling barriers and integrating diagnostic and treatment information comprehensively.



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Against this background, the Chinese Expert Consensus on the Whole-Course Management of Hepatocellular Carcinoma has been established<sup>[4]</sup>. This consensus addresses three pivotal aspects of the whole-process management of HCC: before treatment, during treatment, and after treatment.

## EARLY SCREENING AND DIAGNOSIS

HCC screening plays a crucial role in the whole process of tumor management. First of all, it is necessary to evaluate the risk factors for patients, such as a history of viral infection, exposure to toxic substances, and a history of cancer. This evaluation helps determine their risk status, enabling the recommendation of specific screening strategies. Additionally, there is a necessity to enhance public awareness and education<sup>[5]</sup>. Promoting the significance of early HCC screening and diagnosis can be achieved through various means such as videos, books, and free clinics. This broader outreach ensures that more individuals undergo timely screening, thereby enhancing early screening and diagnosis rates and laying a foundation for the development of whole-process management<sup>[6]</sup>. Conducting systematic, long-term, dynamic intervention evaluations and follow-up observations for HCC patients, particularly those in the high-risk screening population, is beneficial. This approach assists clinicians in comprehensively grasping the occurrence, progression, and prognosis of malignant tumors.

## DEVELOPMENT OF TREATMENT PLAN

It is necessary to adhere to the multidisciplinary diagnosis and treatment mode when formulating the treatment plan. Prior to initiating treatment, a thorough understanding of the patient's overall health, tumor status, tumor biological characteristics, treatment requirements, and economic considerations is crucial for crafting individualized treatment and management plans<sup>[7]</sup>. For HCC patients who are eligible for radical surgical treatment, it is advisable to opt for multidisciplinary comprehensive treatment according to the tumor condition. In cases where surgical intervention is not a viable cure, a combination of local and systemic treatments is the primary approach. Numerous systematic treatment options and local treatment methods are available for HCC. In clinical practice, the challenge lies in strategically organizing treatment regimens, optimizing the effectiveness of each drug, and effectively managing drug-related adverse reactions throughout the entire systemic treatment process. For patients in advanced stages requiring palliative care, regular follow-up examinations should be performed to assess the nutritional status and monitor tumor progression. This allows for timely adjustments to the comprehensive treatment plan. In cases of end-stage tumors, hospice care becomes crucial, which can not only improve the quality of life for patients in their final stages, but also relieve the psychological and mental burden on both patients and their families. It exemplifies the compassionate and humanistic care provided by medical professionals<sup>[8]</sup>.

## SAFETY MONITORING

For HCC patients, a comprehensive understanding of underlying diseases and general conditions is required before treatment. Long-term follow-up for those undergoing radical resection should primarily focus on postoperative recurrence, liver function, and antiviral therapy. For unresectable patients, continuous monitoring of treatment efficacy is essential. Additionally, the potential occurrence of adverse events, such as abnormal liver function and even liver failure during treatment, hypertension, proteinuria, immune-related cardiotoxicity, pulmonary toxicity, and thyroid toxicity increases the risk of non-cancer-related death. Therefore, the prevention and treatment of multiple organ dysfunction should be a key consideration in systematic treatment and follow-up, and the monitoring of liver and kidney function, blood pressure and cardiovascular assessment should also be ongoing for an extended period. Given the significant impact of the disease on the normal life and work of patients, it is imperative to integrate

rehabilitation concepts into the initial multidisciplinary collaboration of treatment. This approach aims to facilitate the early achievement of both physical and mental rehabilitation for patients<sup>[9]</sup>.

## FOLLOW-UP

Whole-process management of tumors is grounded in standardized diagnosis and treatment, emphasizing multidisciplinary cooperation, systematic approaches, and a focus on the long term. This strategy spans the entire spectrum from disease diagnosis to rehabilitation, aiding cancer patients in their battle against diseases through various dimensions such as disease treatment, physical recovery, psychological rehabilitation, and other aspects<sup>[10]</sup>. The consensus underscores a harmonious balance between treatment standardization and individualization. It transcends beyond the stage-oriented treatment of patients to the whole-process management of HCC, establishing a comprehensive health management system that takes into account both the physical and mental health of patients. The goal of whole-process management of patients with HCC is to achieve extended overall survival (OS) and optimize the patient's performance status. Studies have reported that the provision of whole-process management can reduce the treatment cost of patients with advanced cancer by 21.4 % and decrease the risk of death by 38%<sup>[11]</sup>.

The core of the whole-process management of HCC is multidisciplinary standardized treatment, whole-process monitoring before, during, and after treatment, and rehabilitation guidance and quality assessment. This approach offers several advantages, including cost reduction, efficient utilization of medical resources, prevention of unnecessary treatment and examination, ultimately enhancing the effectiveness of medical care and truly achieving individualized early diagnosis and treatment<sup>[12]</sup>. The implementation of the whole-process management optimally leverages the benefits of multidisciplinary joint consultation (MDT)<sup>[13]</sup>. Experts from various disciplines collaborate to establish treatment goals based on a thorough examination of patients (general condition, basic disease, economic status, *etc.*), dynamically observe patients' response to tumor treatment, monitor laboratory indicators, assess alcohol metabolites in hair, *etc.* This ongoing assessment allows for timely adjustments to the treatment plan, culminating in the achievement of individualized and accurate diagnosis and treatment. The ultimate goal is to enhance prognosis, prolong survival time, and improve overall survival benefits.

The consensus underscores the importance of distinguishing the disease stage, grasping the treatment level, devising reasonable treatment strategies, supervising the implementation with timely feedback summaries, conducting dynamic evaluation, and making timely adjustments, so as to achieve optimal clinical benefits and ensure long-term survival. The consensus seamlessly integrates throughout the whole process of tumor prevention, treatment, and rehabilitation. Managing HCC from a global, macroscopic, and long-term perspective is of paramount significance. This involves considering both current clinical benefits and long-term progression-free survival while elevating the enhancement of long-term quality of life to a position equally crucial as achieving immediate tumor remission. Moreover, the consensus reflects the collective wisdom and treatment regimens employed in China for HCC treatment. It is a valuable resource for diverse readers, offering theoretical insights and practical guidance for both the treatment and basic science research of HCC.

## DECLARATIONS

### Authors' contributions

Study concept and design, study supervision: Cheng S, Li Q

Acquisition of data, data management, interpretation of data, manuscript development: Yang Y, Yang Y, Sun J, Cheng S, Li Q

### Availability of data and materials

Not applicable.

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### Conflicts of interest

All authors declared that there are no conflicts of interest.

### Ethical approval and consent to participate

Not applicable.

### Consent for publication

Not applicable.

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