

Advantages of Combined Chinese and Western Medicine in Treating Liver Cancer

Furong Cheng^{1,a}, Hailong Si^{1,b,*}

¹Shaanxi University of Chinese Medicine, Xianyang, 712046, Shaanxi, China

^afurongc1205@163.com, ^bhailongsia@163.com

*Corresponding author

Abstract: Primary liver cancer (abbreviated as hepatocellular carcinoma) is a malignant tumor occurring from intrahepatic bile duct cells or hepatocytes, which is one of the common malignant tumors in China. Early stage liver cancer is mainly treated by surgery, interventional therapy, local ablation therapy, immunotherapy, etc. However, most liver cancers are already in the middle and late stages when diagnosed, and western medical treatment has certain limitations; but at the same time, Chinese medicine treatment has certain advantages, which can improve postoperative status, enhance patients' immunity, improve patients' systemic symptoms, and help improve life quality. In this paper, we review the advantages of Western medical treatment combined with TCM in the treatment of primary hepatocellular carcinoma.

Keywords: hepatocellular carcinoma; combined Chinese and Western medicine treatment; advantages

1. Introduction

With the accelerated pace of life and changes in people's lifestyles, the occurrence of tumors tends to be more and more youthful, especially the development of some malignant tumors. The 2018 Annual Report of Chinese Tumor Registry shows that liver cancer is the third highest tumor mortality and the fourth highest incidence malignancy in China [1]. Liver cancer usually has insidious onset and no obvious symptoms in the early stage, and most patients have already developed to the middle and late stage when diagnosed, which misses the best time for treatment, resulting in poor prognosis and high death rate. Therefore, early diagnosis and treatment of hepatocellular carcinoma is extremely important [2].

2. Modern medical understanding of liver cancer

Primary hepatocellular carcinoma mainly includes three different pathological types: hepatocellular carcinoma (HCC), intrahepatic cholangiocarcinoma (ICC), and mixed types of both (Figure 1), among which HCC accounts for 85%-90% of primary hepatocellular carcinoma; therefore, hepatocellular carcinoma in this article refers to HCC. A large number of facts show that liver cancer is not caused by a single factor, but is the result of the long-term combined effect of multiple environmental factors at multiple stages (Figure 2). Traditional treatment for liver cancer includes surgery, liver transplantation, ablation, intervention, radiation and drug therapy. In recent years, basic research and clinical treatment of malignant tumors have made great progress, and a large number of targeted drugs and immunotherapeutic drugs have been developed and applied in clinical practice, which have greatly improved the survival and quality of life of patients. The progress of these new drugs and therapies is based on a deeper understanding of malignant tumors, but these approaches have encountered bottlenecks and clinical efficacy cannot be significantly improved.

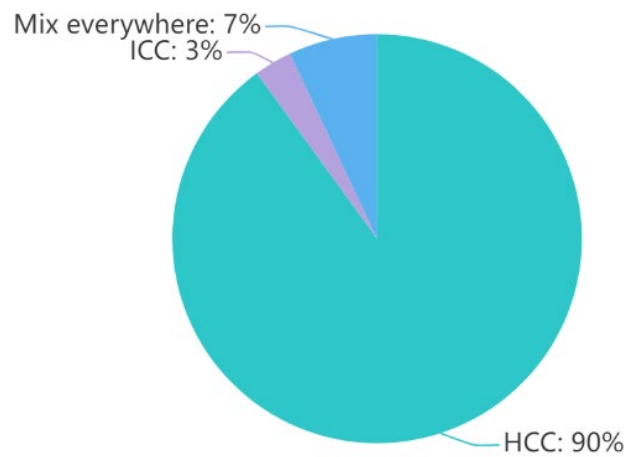


Figure 1: The pathological type of primary liver cancer

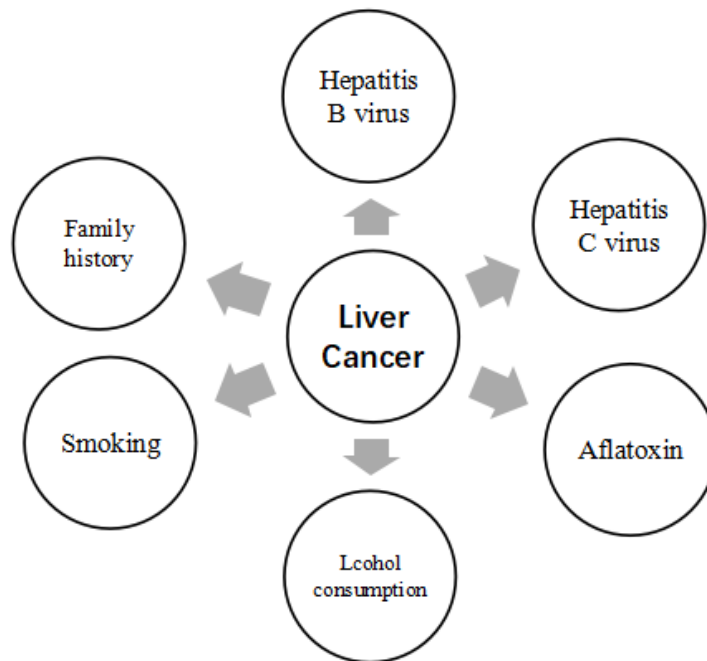


Figure 2: Factors affecting liver cancer

3. Traditional medicine on liver cancer

In ancient Chinese medical literature, there is no clear record of "liver cancer" [3], but the symptoms of liver and spleen enlargement, jaundice, and abdominal distension described in these classical literature are very similar to modern medical liver cancer. Nowadays, it is believed that feeling evil and poison, depression of liver qi and injury by diet are the main causes of liver cancer, while deficiency of positive qi and dysregulation of internal organs are the intrinsic conditions for its development. Liver cancer is located in the liver, but is closely related to the spleen, stomach, gallbladder and kidney (Figure 3). Dampness and heat accumulation type: the main treatment is to clear heat, detoxify and remove yellow, and to reduce water retention and dampness, using Yin Chen Artemisia Tang and Turtle Nail Decoction, plus or minus; Spleen deficiency and liver stagnation type: the main treatment is to remove liver qi, strengthen the spleen and relieve dampness, using Si Jun Zi Tang and Prosperity San, plus or minus; Liver and kidney yin deficiency type: the main treatment is to nourish yin, soften liver,

cool blood and soften hardness, using Consistent Decoction, plus or minus; Qi stagnation and blood stasis type: the main treatment is to dredge liver qi, invigorate blood and eliminate accumulation, using Restoration Qi stagnation and blood stasis: the main treatment is to dredge the liver and Qi, invigorate the blood and eliminate stagnation, using Restoration of Blood, plus or minus.(Table 1)In addition, in addition to Chinese herbal soup, studies in China have found that single herbal medicine for primary liver cancer and various Chinese herbal preparations have certain efficacy in the treatment of primary liver cancer^[4-6].

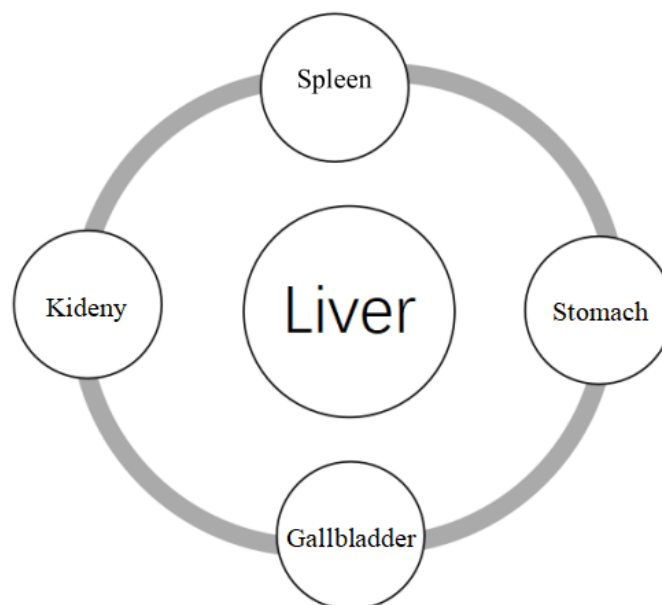


Figure 3: Organs associated with liver cancer

Table 1: Staging and treatment of liver cancer

Certificate Type	Treatment	Recipe
Dampness and heat accumulation type	Clearing heat, detoxifying and reducing yellowing, resolving water retention and dampness	Combining Artemisia Umbelliformis Tang and Turtle Nail Decoction Pill
Spleen deficiency and liver depression type	Clearing liver qi, strengthening the spleen and relieving dampness	Si Jun Zi Tang and Yi Yao San
Liver and kidney Yin deficiency type	Nourishing Yin, softening the liver, cooling the blood and softening the firmness	Yi Guan Jian
Stagnant blood stasis type	Diversifying the liver and Qi, promoting blood circulation and eliminating stagnation	Restoring and Revitalizing Blood Soup

4. Combination of Chinese and Western medicine for liver cancer

4.1. Combination of Chinese medicine and surgery

In the face of the body's inability to tolerate surgery and postoperative recurrence, supporting the root through Chinese medicine is also an effective means to prolong survival and reduce postoperative recurrence. He Nana et al^[7] grouped postoperative patients with hepatocellular carcinoma, and the control group was given postoperative conventional treatment, while the observation group was given oral Chinese medicine soup on the basis of conventional treatment, and the results showed that the observation group was better than the control group in all aspects. Shi Tao et al^[8] retrospectively analyzed the factors that may affect the disease-free survival after surgery in 78 patients who had

undergone hepatectomy using Cox model, and confirmed that traditional Chinese medicine could prolong the survival of patients and prevent tumor recurrence and metastasis.

4.2. Combination of Chinese medicine and TACE

The combination of Chinese medicine and TACE procedure for hepatocellular carcinoma is mainly reflected in two aspects: First, the drugs as interventional therapy are directly injected into the organism to cause tumor cell degeneration and necrosis. On the other hand, the efficacy and toxicity reduction of TACE embolization with Chinese medicine should not be neglected. Shi Fangyu et al ^[9] conducted a Meta-analysis of clinical trials related to seven different types of TCM combined with interventions including 6493 patients with hepatocellular carcinoma, and the results showed that the study protocol of Kangai could better improve the efficacy and the protocol of Huachansu could better reduce the complications such as fever, nausea, vomiting, liver pain and abdominal distension after embolization and improve the quality of life of patients. Shi Lei et al ^[10] divided patients with hepatocellular carcinoma into observation and control groups, and the observation group received Bai Lian Hua Fetish Tang after TACE, while the control group only received TACE. The results showed that the addition of Bai Lian Hua Fetish Tang after TACE could significantly improve the liver function and various indexes of patients with primary hepatocellular carcinoma, resulting in a significant improvement in their treatment effect and survival rate. Ding Ke et al ^[11] grouped patients after TACE, and the control group was given conventional western medicine, while the treatment group was given Gentian and Liver Dissolving Tang on top of this, and the results showed that the treatment group had significantly better efficacy than the control group.

4.3. Combination of Traditional Chinese Medicine and Molecular Targeted Immunological Drugs

Hepatocellular carcinoma has become a contraindication to hepatectomy and liver transplantation, and local ablation and TACE have also lost their clinical value. Therefore, the combination of molecularly targeted drugs and Chinese medicine has become the primary choice for systemic treatment, which can work together to improve the quality of life and prolong the life span. In recent years, the combination of sorafenib with TCM has made great progress in the treatment of advanced hepatocellular carcinoma, and Feng Lihua et al ^[12-13] found that sorafenib tablets combined with huachansu tablets could significantly increase the clinical benefit rate of patients, improve the indexes of leukocytes, total bilirubin and ghrelin, and reduce patients' pain and improve their quality of life, which is worth promoting.

4.4. Combination of Chinese medicine and local ablation

Cucchetti et al ^[14] found that local ablation was superior to surgical treatment for central hepatocellular carcinoma with smaller diameter and deeper sites, but adverse effects such as fever, weakness, thermal radiation damage to adjacent organ tissues, bleeding infection in the abdominal cavity, and damage to bile ducts limited the clinical application of ablation, so seeking effective TCM before and after ablation. Therefore, seeking effective TCM treatment before and after ablation can reduce the occurrence of complications and improve the survival quality of patients. Mao Kui et al ^[15] selected 150 patients for a study on the effect of ginseng injection on recurrence and metastasis after radiofrequency ablation of hepatocellular carcinoma, and the results showed that the efficacy of the observation group was better than that of the control group in patients treated with the combination of ginseng injection.

4.5. Combining Chinese medicine and chemotherapy

Chemotherapeutic drugs can have certain toxic side effects, but Chinese medicine treatment can compensate for these deficiencies, reduce the side effects of chemotherapy, enhance immunity, and improve liver function. The results of some studies have shown that the combination of chemotherapy with Diaphragmatic and Stasis Removal Tang ^[16] and Fu Zheng Gu Ben Detoxification Tang ^[17] can reduce the volume of tumors, elevate platelets, and also enhance the liver's hepatoprotective and biliary function, alleviate adverse effects, and increase the possibility of liver cancer changing from incurable to curable.

4.6. Combination of Chinese medicine and radiotherapy

Ge Jing et al ^[18] observed the effect of soft liver and bile soup combined with interventional and 3D conformal radiotherapy on cellular immunity of hepatocellular carcinoma, and the results showed that the incidence of adverse reactions such as nausea and vomiting and decreased blood count, which patients are prone to after radiotherapy, was reduced. Yang Shirong et al ^[19] used Addy injection combined with 3D conformal radiotherapy for antitumor treatment, and the six-month survival rate and cellular immune function of patients were better than those of radiation therapy alone.

5. Summary and outlook

Liver cancer is a very complex disease, the cause and pathogenesis of which are still not fully understood. It is difficult to detect the disease in the early stage, and difficult to control the deterioration of the disease in the middle and late stage, thus increasing the difficulty of clinical treatment, and there is no clinical solution available for a complete cure. The organic integration of TCM and Western medicine treatment methods, complementing each other's strengths and advantages, has broadened the application of TCM in the treatment of liver cancer. How to better combine the treatment methods of TCM and Western medicine for joint anti-tumor treatment requires continuous accumulation of experience in future practice to find the "optimal solution" for the treatment of liver cancer.(Figure 4)

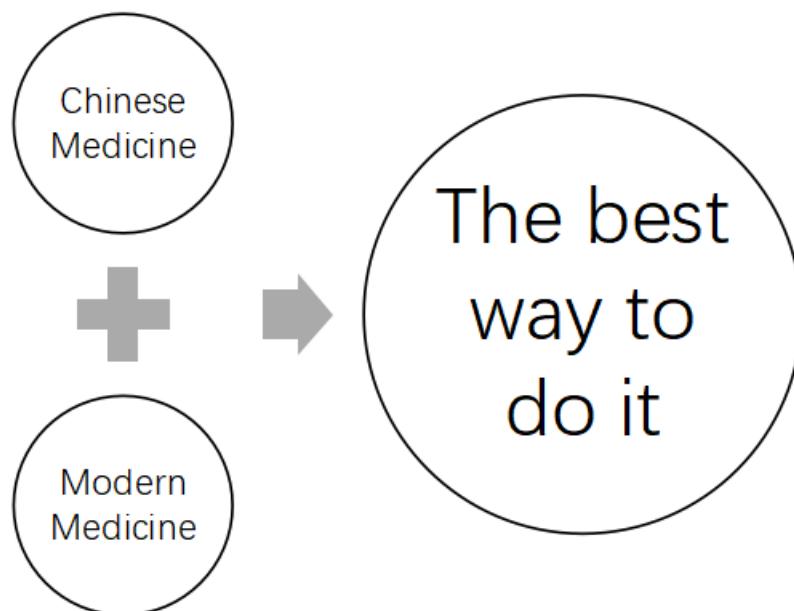


Figure 4: East meets West

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