

The Embodiment and Application of the Holistic Concept of Traditional Chinese Medicine in Malignant Tumors

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Abstract: *Traditional Chinese Medicine (TCM) plays a crucial role in malignant tumor management through its unique holistic concept and syndrome differentiation-based therapy. It conceptualizes tumors as systemic dysfunction driven by healthy qi deficiency, pathogenic invasion, and emotional/social perturbations, highlighting the local-systemic unity. Clinically, TCM mitigates chemo/radiotherapy adverse effects, boosts efficacy, stabilizes advanced tumors, and lowers recurrence risk. Modern studies confirm tonic herbal prescriptions and non-pharmacological interventions exert anti-tumor effects via multi-target regulation. Future efforts should advance TCM's modern interpretation, high-quality trials, and standardization to integrate TCM with Western medicine for optimized whole-course patient care.*

Keywords: Holistic concept, Malignant tumors, Etiology and pathogenesis.

1. Introduction

Malignant tumors have become one of the core chronic diseases severely jeopardizing the physical and mental health of residents in China [1]. In recent years, driven by the dual forces of rapid socioeconomic development and a continuously accelerating aging population, the incidence and mortality rates of the vast majority of malignant tumors in China have shown a year-by-year increasing trend. The total number of new cancer cases has long ranked first globally; among these, diseases such as liver cancer, esophageal cancer, gastric cancer, and lung cancer are particularly prominent. China not only holds the top global position for the number of new cases of these specific tumors but also ranks highest globally in terms of associated deaths [2, 3]. Currently, common anti-tumor modalities in modern medicine primarily include surgical resection, radiotherapy, chemotherapy, and targeted therapy, which are selected and applied individually in clinical practice based on the patient's disease stage. However, these treatment approaches still face difficult-to-overcome efficacy limitations and are prone to inducing various adverse reactions, negatively impacting patients' treatment tolerance and quality of life [4]. With the continuous refinement of Traditional Chinese Medicine (TCM) theoretical systems and clinical applications, its unique core principles of holism and syndrome differentiation and treatment are increasingly demonstrating distinct advantages in cancer prevention and comprehensive management, offering novel perspectives and directions for the integrative treatment of malignant tumors.

2. The Core Connotation of the Holistic Concept of Traditional Chinese Medicine

The holistic concept, occupying a central position within the theoretical system of Traditional Chinese Medicine (TCM), traces its philosophical origins to the profound accumulation of ancient Chinese thought. The Daoist classic *Dao De Jing* posits the cosmological theory that "The Dao begets One; One begets Two; Two begets Three; Three begets all things" [5].

This viewpoint provided crucial philosophical underpinning for the formation of TCM's holistic perspective. Firstly, the TCM holistic concept emphasizes that the human body itself is an organically unified whole, with the five zang-organs serving as its core pivot. There exists an inseparable connection between local tissues and organs and the entirety of the body. Local pathologies can influence overall function, and abnormalities in the overall state can also manifest locally. Secondly, TCM upholds the view that "humans are born endowed with the qi of heaven and earth," positing that human physiological activities and pathological changes are profoundly influenced by natural factors such as seasonal climatic variations and regional environmental differences. This core tenet is encapsulated in the theory of "correspondence between human and heaven." Building upon this, TCM further asserts that human emotional and mental activities do not exist in isolation but are closely related to shifts in the social environment and the harmony of interpersonal relationships. This triadic systems-thinking model, encompassing the "individual-nature-society" continuum, is not confined to any specific diagnostic or therapeutic stage. Rather, it permeates the entire process of TCM's understanding of the essence of health, its interpretation of the laws governing disease onset and progression, and its theories and practices for health preservation and disease prevention [6].

3. The Holistic Cognition of the Etiology and Pathogenesis of Tumors from the TCM Perspective

3.1 Deficiency of Healthy Qi as the Internal Basis for Tumor Development

Tumor is a malignant consumptive disease characterized by abnormal proliferation of visceral tissues, with deficiency of healthy qi being a pivotal concept in TCM's understanding of its pathogenesis [7]. As stated in classical texts, "When healthy qi remains strong within, pathogenic factors cannot invade," and "Where pathogenic factors accumulate, the qi

must be deficient.” Healthy qi refers to the manifestation of the body’s normal functional activities in contrast to pathogenic qi. This theory originated from the Inner Canon and is closely related to disease onset, prevention, and treatment [8]. In modern TCM, healthy qi encompasses not only the body’s ordinary physiological functions but also its capacities for self-regulation, environmental adaptation, resistance against pathogens, prevention of diseases, and recovery. TCM emphasizes that when healthy qi is abundant, the viscera are coordinated, qi and blood flow smoothly, the body adapts to natural changes, resists external pathogens, maintains self-regulation, and preserves overall balance. Conversely, deficiency of healthy qi leads to internal-external disharmony, allowing pathogenic factors to invade, resulting in dysfunction of the viscera.

3.2 Invasion of Pathogenic Factors as the External Condition for Tumor Development

The holistic view of TCM underscores that the human body is an integrated organic whole, possessing intrinsic connections and the ability to self-regulate and adapt, with inseparable structural and functional unity [9]. Externally contracted six excesses or internally generated five pathogens invade the body on the basis of healthy qi deficiency, disrupting the balance between healthy qi and pathogenic factors and thereby contributing to tumorigenesis.

3.3 Systemic Imbalance as the Key Pathogenesis of Tumor Progression

Tumor is not merely a local lesion but a localized manifestation of systemic functional dysregulation. Imbalance in the overall system of viscera, meridians, qi, blood, and body fluids leads to accumulation of pathogenic factors, mutual binding of phlegm, stasis, and toxins, thereby driving tumor growth and metastasis.

3.4 Holistic Influence of Emotional and Social Factors

As described in TCM theory, “The five viscera transform into five kinds of qi, giving rise to joy, anger, pensiveness, worry, and fear.” Both insufficiency and excess of emotions are not only manifestations of visceral disharmony but can also “counter-injure the five viscera,” exacerbating yin-yang imbalance, leading to numerous diseases and protracted illness. Social environmental factors and lifestyle habits indirectly participate in tumor development by affecting the overall state of the human body.

4. Specific Clinical Applications of the Holistic Concept of Traditional Chinese Medicine (TCM) in Malignant Tumor Management

4.1 Applications in Radiotherapy and Chemotherapy for Malignant Tumors

4.1.1 Attenuation of Adverse Effects Induced by Radiotherapy and Chemotherapy

Within the theoretical framework of TCM, both radiotherapy and chemotherapy are categorized under the realm of “pathogen elimination”. The core therapeutic focus of these

two modalities lies in the local control of tumor lesions, yet they often neglect the holistic regulation of the body’s systemic state. This treatment paradigm is prone to impairing patients’ physical functions and reducing their quality of life; in severe cases, it may even further disrupt the inherent yin-yang balance of the body, thereby creating favorable conditions for tumor invasion and dissemination.

Myelosuppression represents one of the most prevalent adverse reactions in patients following chemotherapy. From a TCM perspective, chemotherapeutic agents are inherently classified as potent and toxic substances. While they exert cytotoxic effects on tumor cells, they also tend to cause damage to core zang-fu organs such as the spleen, stomach, liver, and kidneys. The spleen and stomach are regarded as the source of qi and blood production; thus, impairment of splenic and gastric function leads to a deficiency in qi and blood generation. The liver stores blood and the kidney stores essence; liver-kidney deficiency results in the consumption of kidney essence, and the pathological state of “essence failing to produce blood” further exacerbates qi and blood insufficiency. Based on this pathogenesis, clinical TCM interventions for post-chemotherapy myelosuppression are primarily centered on the core therapeutic principles of invigorating the spleen and tonifying the kidney, as well as nourishing blood and replenishing essence. Through the regulation of the body’s systemic functions, these interventions aim to alleviate chemotherapy-induced adverse reactions and promote patient recovery.

4.1.2 Potentiation of Therapeutic Efficacy in Radiotherapy and Chemotherapy

A classic TCM tenet states that “When healthy qi abides within the body, pathogenic factors cannot invade”—a core ideology that is highly consistent with the connotation of the TCM holistic concept. In the prevention and treatment of tumors, the TCM holistic concept places particular emphasis on the fundamental principle of “supporting healthy qi and consolidating the root”. Its intervention strategies are manifested in two key dimensions: first, medicinal regulation, which involves the syndrome differentiation-based administration of herbal formulas to correct pathological states such as qi and blood deficiency and zang-fu disharmony; second, lifestyle modulation, which encompasses the alleviation of emotional distress, optimization of dietary structure, establishment of regular daily routines, and control of work intensity.

The ultimate goal of these comprehensive interventions is to restore the homeostatic balance of yin and yang in the human body, thereby promoting the sufficiency of qi and blood and the coordination of zang-fu organs. Clinical practice and relevant research have confirmed that such healthy qi-supporting interventions based on the holistic concept not only regulate patients’ immune function to a certain extent but also achieve therapeutic effects such as stabilizing tumor lesions and reducing tumor volume. Simultaneously, they effectively improve patients’ clinical symptoms, providing strong support for the comprehensive treatment of malignant tumors [10].

4.1.3 Contemporary Pharmacological Investigations

Classic qi-tonifying and body-strengthening Chinese medicinal herbs, including *Panax ginseng*, *Astragalus membranaceus*, *Poria cocos*, and *Rehmannia glutinosa*, all possess core effects of immune regulation and functional improvement. Their mechanisms of action exhibit characteristics of multi-targeted and multi-pathway synergism, enabling them to exert dual effects of anti-tumor activity and body protection across multiple levels.

Specifically, these herbs not only comprehensively enhance and dynamically balance the body's immune function, strengthening the body's defense against tumors, but also effectively mitigate damage to the bone marrow hematopoietic microenvironment caused by treatments such as radiotherapy and chemotherapy, thereby promoting the repair and reconstruction of hematopoietic function. Meanwhile, on the basis of improving gastrointestinal digestive and absorptive functions and enhancing patients' nutritional status and treatment tolerance, these herbs also exert a significant inhibitory effect on the abnormal proliferation of tumor cells and can induce tumor cell apoptosis through the regulation of relevant signaling pathways. In addition, existing research has confirmed that qi-tonifying Chinese medicinal herbs also possess a certain potential for inhibiting tumor invasion and metastasis, whose mechanism of action is closely related to the suppression of tumor angiogenesis and the blocking of tumor cell invasion pathways [11].

4.2 Applications in Advanced Malignant Tumors

Based on the TCM "holistic concept", advanced malignant tumors are regarded as a complex pathological state characterized by the intermingling of fundamental deficiency and superficial. TCM treatment does not merely target tumor lesions but focuses on holistic regulation and whole-course management, exhibiting multiple integrated advantages.

On the one hand, through therapeutic methods such as invigorating the spleen and tonifying the kidney, as well as replenishing qi and nourishing blood, TCM supports healthy qi, improves patients' immune function and systemic physical condition, and enhances their treatment tolerance and confidence. On the other hand, combined with methods such as clearing heat and detoxifying, as well as resolving phlegm and dissipating stagnation, TCM inhibits tumor progression, effectively alleviates the toxic and side effects caused by radiotherapy and chemotherapy, and improves patients' quality of life.

Furthermore, the TCM treatment model is convenient: it can usually be completed on an outpatient basis, and the medication regimen is relatively regular, which helps to reduce the physical and mental burden and economic pressure on elderly patients caused by frequent hospitalization, thereby improving treatment compliance. In addition, TCM emphasizes the simultaneous regulation of physical and mental states, which can alleviate patients' anxiety and depression. Coupled with its profound cultural roots and high recognition among the elderly population, TCM further enhances treatment trust and acceptance.

Therefore, through holistic syndrome differentiation and the

principle of "supporting healthy qi and eliminating pathogenic factors", TCM has demonstrated comprehensive value in the treatment of advanced tumors in the elderly, including improving internal physical state, controlling disease progression, enhancing quality of life, and reducing multi-faceted burdens [12]. It can serve as an important synergistic and complementary approach to modern medical treatment.

4.3 Applications in the Post-Treatment Rehabilitation Phase of Malignant Tumors

Although modern medical modalities such as surgical resection and chemotherapy remain the core treatment strategies for malignant tumors, a large body of clinical research evidence indicates that the physical trauma caused by radical tumor resection surgery, as well as subsequent adjuvant treatments such as radiotherapy and chemotherapy, may disrupt the homeostatic balance of the body's internal environment, thereby increasing the potential risk of post-operative tumor recurrence [13-15]. Against this backdrop, the value of TCM in the prevention and treatment of tumors has become increasingly prominent, with its core advantage lying in adherence to the holistic regulation principle of "holistic concept and syndrome differentiation-based treatment".

Sijunzi Decoction, a classic TCM formula, has been widely used throughout the entire treatment process of patients with colorectal cancer (CRC). Relevant studies have confirmed that the early implementation of TCM intervention in post-operative patients not only effectively enhances the body's immune function [16] and potentiates the anti-tumor efficacy of chemotherapeutic drugs [17] but also significantly alleviates various toxic and side effects induced by chemotherapy [18]. Such TCM intervention measures also exert a positive effect on improving patients' quality of life and prolonging their survival time. Modern pharmacological research has further revealed the mechanism of action of Sijunzi Decoction: it can inhibit the growth of tumor cells through the regulation of key signaling pathways such as p53, Wnt, and nuclear factor- κ B (NF- κ B); simultaneously, it exerts a biological effect of inhibiting tumor invasion and metastasis by intervening in signaling pathways such as Wnt/ β -catenin and Hippo [19].

From the perspective of TCM theory of emotional disorder-induced disease, patients with malignant tumors often experience a prolonged state of emotional stress. Taking post-operative lung cancer patients as an example, persistent fear resulting from excessive worry about tumor recurrence tends to lead to downward collapse of qi in the body; while unrelenting brooding and excessive contemplation can further induce qi stagnation. Both of these pathological states exert an adverse impact on the body's recovery [20]. TCM has long regarded emotional disorder as an important predisposing factor for the occurrence and development of diseases. Modern medical research has also confirmed that emotional stress can accelerate tumor progression and metastasis through multiple pathways, with specific mechanisms including the activation of the hypothalamic-pituitary-adrenal (HPA) axis and the sympathetic nervous system, the induction of a special tumor microenvironment conducive to tumor

proliferation, and the promotion of tumor cell drug resistance [21].

Clinical practice has shown that the combined intervention model of Chinese medicine and mindfulness-based therapy can significantly improve the depressive state of post-operative lung cancer patients; the application of five-tone therapy can also effectively alleviate patients' anxiety and depression. In addition, traditional TCM movement therapies such as Baduanjin, Wuqinxi, and Tai Chi have also demonstrated good application prospects in promoting the recovery of lung function and enhancing the overall rehabilitation ability of post-operative lung cancer patients [22-24].

5. Conclusion

Traditional Chinese Medicine (TCM), through its distinctive theoretical systems of the "holistic concept" and "syndrome differentiation and treatment", has demonstrated multi-dimensional and multi-level comprehensive value in the prevention and management of malignant tumors. At the level of etiology and pathogenesis, TCM conceptualizes tumors as a form of systemic dysfunction arising from the synergistic effects of healthy qi deficiency, pathogenic factor invasion, and emotional and social perturbations, with a core emphasis on the inherent unity between local pathological lesions and the body's overall physiological state.

In clinical practice, TCM exerts its therapeutic effects through multiple mechanisms, including supporting healthy qi to eliminate pathogenic factors, regulating immune function, and ameliorating emotional disorders. These interventions not only alleviate the adverse reactions induced by radiotherapy and chemotherapy and enhance their therapeutic efficacy but also play a positive role in stabilizing disease progression, improving quality of life, and reducing the risk of recurrence during the maintenance treatment of advanced tumors and the post-treatment rehabilitation phase.

Research evidence indicates that tonic TCM formulas (exemplified by Sijunzi Decoction) and non-pharmacological interventions (such as mindfulness practices, five-tone therapy, and traditional movement therapies) can all exert beneficial effects on tumor prevention and treatment by modulating immune function and improving patients' psychological and physiological status. However, the further development of TCM in the field of oncology currently faces several key challenges, including the insufficient modern interpretation of TCM theoretical frameworks, the lack of high-quality clinical evidence, and the low degree of standardization in diagnosis and treatment protocols.

Future endeavors should prioritize advancing the modern scientific elucidation of TCM theory, conducting standardized large-sample clinical trials, establishing unified criteria for syndrome differentiation and therapeutic efficacy evaluation, and further deepening the integrated diagnosis and treatment model based on TCM-Western medicine collaboration. With the global shift of the medical model toward the "biopsychosocial" paradigm, the TCM holistic concept is poised to play an even more critical role in the whole-course management of malignant tumors. Through continuous

innovation in theory, technology, and clinical practice, TCM is expected to provide more distinctive and effective integrated medical solutions for patients with malignant tumors.

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