

Traditional Chinese Medicine in the Management of Chemotherapy-Related Side Effects: Overview of Current Clinical Trial Activity

Kire Stojkovski¹, Evgenija Dameska-Stojkovska², Vladimir Stojkovski³, Vesna Veslievska Stojkovska⁴, Mihail Petrov Mihaylov⁵

1 PSI-CRO, Sofia R. Bulgaria

2 UMBAL Sofiamed, Sofia, R. Bulgaria

3 GOB 8 September, Skopje, Republic of N. Macedonia

4 University Clinic of Gynecology and Obstetrics, Medical Faculty Skopje R.N. Macedonia

5 Aesthetic clinic Obliq by Dr. Mihaylov, Sofia R. Bulgaria

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Abstract

Chemotherapy remains one of the cornerstones of cancer treatment in modern oncology, however, its use is frequently associated with significant adverse effects that negatively impact the quality of life, treatment adherence, and clinical outcomes of patients.

Traditional Chinese Medicine (TCM) has increasingly gained attention as a complementary supportive care approach in oncology, particularly for the management of chemotherapy-related toxicities. This overview summarizes current clinical trial activity investigating TCM interventions in patients undergoing anticancer treatment.

Registered clinical studies demonstrate growing international interest in the use of Traditional Chinese Medicine modalities, including Chinese herbal medicine, acupuncture-related therapies, hot bag therapy, and integrative treatment strategies combined with conventional chemotherapy. Most identified studies focus on chemotherapy-induced peripheral neuropathy (CIPN), one of the most challenging and dose-limiting toxicities associated with anticancer treatment. Additional investigated outcomes include symptom burden reduction, quality of life improvement and also progression-free survival.

The increasing number of clinical trials highlights the recognition of integrative oncology approaches aimed at improving supportive cancer care. Further well-designed randomized controlled trials with standardized methodologies and rigorous safety evaluation are necessary to establish the therapeutic role of TCM in the management of chemotherapy-associated side effects.

Key Words: Traditional Chinese Medicine, Chemotherapy, Clinical Trials, Oncology

Introduction

Chemotherapy is one of the principal treatment modalities available for malignant diseases worldwide. Although chemotherapy offers important benefits in treating the disease, it is often linked to various side effects that can reduce patients' quality of life, affect treatment adherence, and impact overall clinical outcomes. Some of the most common chemotherapy-related toxicities include chemotherapy-induced peripheral neuropathy, fatigue, nausea and vomiting, gastrointestinal disturbances, hematological toxicities, mucositis, and psychological distress.

In recent years, increasing attention has been directed toward supportive and integrative oncology approaches aimed at reducing treatment-related toxicity while maintaining anticancer efficacy.

Traditional Chinese Medicine (TCM) has emerged as an important complementary therapeutic approach in oncology supportive care. TCM interventions, including herbal medicine, acupuncture, moxibustion, topical applications, therapeutic soaking, and integrative nursing approaches, have been investigated for their potential role in alleviating chemotherapy-induced adverse effects. Clinical trials registered in international databases demonstrate growing global interest in evaluating the efficacy and safety of TCM-based interventions among patients receiving chemotherapy. This article reviews available data retrieved from ClinicalTrials.gov.

Current Trends in Clinical Trials

Analysis of registered clinical trials demonstrates increasing research activity focused on TCM interventions for chemotherapy-associated side effects. The identified studies include both interventional and observational designs and involve patients with various malignancies, including breast cancer, lung cancer, colorectal cancer, and solid tumors.

One of the most frequently investigated complications is chemotherapy-induced peripheral neuropathy (CIPN), a debilitating adverse effect that may significantly impair physical functioning and lead to dose reductions or discontinuation of anticancer treatment. Several recent studies have explored the use of Chinese herbal formulations, traditional medicinal soaking therapies, and topical applications for prevention or reduction of neuropathic symptoms.

In addition to neuropathy management, TCM interventions have also been investigated in relation to improving progression-free survival, disease-free survival, symptom burden, and overall quality of life. Some studies combine conventional chemotherapy regimens with herbal medicine formulations, aiming to evaluate whether integrative treatment strategies may enhance tolerability and clinical outcomes.

Most identified studies involve adult and older adult populations, reflecting the high prevalence of cancer within these age groups. Interventional studies include Phase II and Phase IV clinical trials, while observational cohort studies are also represented, suggesting continued exploratory interest in this field.

Types of Traditional Chinese Medicine Interventions Investigated

The reviewed clinical trials include a broad range of TCM-based therapeutic approaches:

Chinese herbal medicine formulations administered orally,

Traditional Chinese medicine hot bag therapy,

Herbal soaking therapies for hand-foot symptoms and neuropathy,

Integrative chemotherapy plus other TCM treatment strategies.

Combination of products involving herbal medicine and standard oncological care.

These interventions are primarily designed to reduce symptom severity, improve patient comfort, and support continuation of anticancer therapy.

Conducting clinical trials benefits both researchers and patients. Current participants may gain access to new treatments, while future patients can benefit if the trials show positive results. [1]

Materials and Methods

This study is based on a review of published and reported information from ClinicalTrials.gov, the largest and most reliable database for clinical trial information. It is a database web page of privately and publicly funded clinical studies conducted all around the world. [1]

The web page provides information about clinical research studies to the public, to health care professionals and to researchers. There is specialized search tool on the web page that is providing relevant information regarding clinical studies. [2]

The filters that were used to get the results are:

Intervention/Treatment is chosen as Traditional Chinese Medicine,

The indication is Chemotherapy related conditions.

The information obtained included regarding the number of organized clinical trials, first organized and reported clinical trial, the type of the clinical trials, the phase in which the clinical trial is conducted, the number of clinical trials that are accepting children as potential patients.

Result & discussion

According to the available data, a total of 46 clinical trials were reported on ClinicalTrials.gov in which indication is related to chemotherapy associated conditions.

The number of reported clinical trials is low, knowing the fact that the number of oncological patients treated with chemotherapy is increasing.

The first clinical trial regarding chemotherapy induced conditions is from February 2002, organized in USA. This is positive sign, indicating that researchers all over the world are working on finding treatment for the expected conditions related to chemotherapy. And also positive sign is that this is performed in USA, which is indicating that clinical trials regarding to Traditional Chinese Medicine are organized also in countries outside of the People's Republic of China. The Clinical Trial is Interventional.

Of all the 46 clinical trials, 40 are in Interventional type, and 6 are from observational.

These numbers are expected, because participants who are part of these clinical trials have some ongoing conditions, which must be treated with different treatments for improvement of the condition. Safety and Efficacy of the treatment is researched, and also this is creating the scientific evidence which is needed for approval of some new treatment.

Regarding phase of clinical trials, for half of the reported clinical trials 29, phase is not listed, 9 of the clinical trials are in phase 2, 6 clinical trials are in phase 3, and only 2 of the clinical trials are in phase 4.

These numbers are also expected, however it would have been better if phase had been reported for all of the clinical trials, so the results would have been much clearer.

Of all of the clinical trials, all of them are related to chemotherapy related conditions of oncological patients. And these numbers are expected related to the research strategy.

Of all of the clinical trials, only 2 are accepting just Children, and the rest 44 are only organized in treatment of adults. Even though these numbers are expected, it is positive that there are some clinical trials in which children are treated, because the number of children with these types of disease is increasing, however still the number of adults with oncological diseases is significantly higher.

From all of the clinical trials for which there is available information for the location, we can see that most of them as expected are organized and conducted in the People's Republic of China, and there are 2 Clinical Trials organized in the United States of America.

Even these numbers are expected since TCM is mostly used in the People's Republic of China, it is really positive that there are clinical trials organized outside of the People's Republic of China, in the United States of America

Despite increasing research activity, significant heterogeneity remains among the available studies regarding methodology, intervention standardization, sample size, and outcome assessment. Future multicenter randomized controlled trials with harmonized protocols are necessary to strengthen the evidence base for Traditional Chinese Medicine in supportive oncology care.

Conclusion

The study is based on a data available at <https://clinicaltrials.gov/>.

<https://clinicaltrials.gov/> From the available data we can see that on this database the number of reported clinical trials is not that high. This is due to the fact that scientists in the People's Republic of China are using different modalities for reporting the data of Clinical Trials, instead of.

As one of the biggest and most used database. It will be good if scientists who are working on Clinical Trials related to Traditional Chinese Medicine should start and report data from clinical trials in this database as well.

The number found in this research were expected as they were, and the positive result is that Clinical Trials in which conditions related to chemotherapy are organized. It is also positive that there are clinical trials in which children treated with chemotherapy are the targeted participants in the clinical trials.

And the most positive aspect is that there are also clinical trials that are organized and conducted outside of the People's Republic of China, more specific have been conducted in United States of America.

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