

Integrating Chinese herbal medicine in advanced lung cancer: a multicenter real-world study using target trial emulation

Submission date 04/06/2025	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 09/06/2025	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 09/06/2025	Condition category Cancer	<input type="checkbox"/> Individual participant data <input checked="" type="checkbox"/> Record updated in last year

Plain English summary of protocol

Background and study aims

Lung cancer is the leading cause of cancer-related deaths globally, with about 2.4 million new cases and 1.8 million deaths reported in 2022. Over 75% of cases are diagnosed at advanced stages, with a 5-year survival rate of only 5.2%. Non-small cell lung cancer (NSCLC) accounts for more than 80% of lung cancers. While targeted therapies, particularly EGFR-TKIs, extend progression-free survival, they are often limited by resistance and adverse effects. Chinese herbal medicine (CHM), commonly used in Asia, has shown potential in improving outcomes and reducing treatment-related side effects in NSCLC. This study aims to evaluate the feasibility and long-term impact of integrating CHM - specifically oral CHM - into advanced NSCLC management using real-world data and network pharmacology.

Who can participate?

Patients aged 18 to 80 years diagnosed with stage IV non-small cell lung cancer who have received oral Chinese herbal medicine as part of their treatment.

What does the study involve?

This is a retrospective analysis of clinical outcomes using real-world databases. The study will also use network pharmacology to analyze core CHM prescriptions and their potential molecular mechanisms.

What are the possible benefits and risks of participating?

As this is a retrospective study, there is no direct involvement or risk to patients. The findings may benefit future patients by optimizing integrative treatment strategies.

Where is the study run from?

Chang Gung Memorial Hospital, Taiwan

When is the study starting and how long is it expected to run for?

November 2023 to February 2024

Who is funding the study?

The study is funded by the Chang Gung Medical Foundation, the Ministry of Health and Welfare and the National Science and Technology Council in Taiwan.

Who is the main contact?

Dr Hsing-Yu Chen, 8705016@cgmh.org.tw

Contact information

Type(s)

Public, Scientific, Principal investigator

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Additional identifiers

Clinical Trials Information System (CTIS)

Nil known

ClinicalTrials.gov (NCT)

Nil known

Protocol serial number

MOHW114-CMAP-M-113-000005-C

Study information

Scientific Title

The clinical outcomes of integrating Chinese herbal medicine in stage IV non-small cell lung cancer treatment: a multicenter real-world study using target trial emulation and system biology approach

Study objectives

Integrating Chinese herbal medicine (CHM) in the management of patients with advanced non-small cell lung cancer (NSCLC) may have a better long-term outcome than standard therapy alone.

Ethics approval required

Ethics approval required

Ethics approval(s)

approved 23/11/2023, The Institutional Review Board of the Chang Gung Medical Foundation (199, Tung Hwa North Road, Taipei, 10507, Taiwan; +886 (0)3 3196200; jocelyn320@cgmh.org.tw), ref: 202300142B0C502

Study design

Multi-center retrospective target trial emulation

Primary study design

Observational

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Stage IV non-small cell lung cancer.

Interventions

Chinese herbal medicine, modified according to illness and physicians' clinical experience (at least 28 days of oral Chinese herbal medicine treatment, twice to three times a day). The follow-up duration was set as 10 years after diagnosis or to the date of 31/12/2021.

Intervention Type

Supplement

Primary outcome(s)

Overall survival (OS), retrieved from the clinical database built up by the Chang Gung Medical Foundation, measured at the end of the study (31/12/2021) or 10 years after diagnosis

Key secondary outcome(s)

Cancer-specific survival (CSS), retrieved from the clinical database built up by the Chang Gung Medical Foundation, measured at the end of the study (31/12/2021) or 10 years after diagnosis

Completion date

13/02/2024

Eligibility**Key inclusion criteria**

1. Patients newly diagnosed with stage IV NSCLC
2. Aged 18 to 80 years

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Upper age limit

80 years

Sex

All

Total final enrolment

6359

Key exclusion criteria

1. Patients aged <18 or ≥80 years
2. Errors in diagnosis or death date
3. Missing TNM staging records
4. Non-stage IV NSCLC, or cancer types other than squamous cell (SqCC) and adenocarcinoma (AC)

Date of first enrolment

01/01/2011

Date of final enrolment

31/12/2021

Locations**Countries of recruitment**

Taiwan

Study participating centre

Chang Gung Memorial Hospital, Taiwan

No.5, Fuxing St., Guishan Dist.

Taoyuan City

Taiwan

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Sponsor information**Organisation**

Chang Gung Medical Foundation

Funder(s)

Funder type

Charity

Funder Name

Chang Gung Medical Foundation

Alternative Name(s)

Funding Body Type

Private sector organisation

Funding Body Subtype

Trusts, charities, foundations (both public and private)

Location

Taiwan

Funder Name

The Ministry of Health and Welfare, Taiwan

Alternative Name(s)

Funding Body Type

Private sector organisation

Funding Body Subtype

Trusts, charities, foundations (both public and private)

Location

Taiwan

Funder Name

National Science and Technology Council

Alternative Name(s)

National Science and Technology Council (Taiwan), National Science and Technology Council, R.O. C, National Science and Technology Council of Taiwan, Ministry of Science and Technology, Taiwan, Taiwan's National Science and Technology Council, , NSTC

Funding Body Type

Government organisation

Funding Body Subtype
National government

Location
Taiwan

Results and Publications

Individual participant data (IPD) sharing plan

The dataset analyzed in this study would be available upon proper request and approval from the Institutional Review Board of the Chang Gung Medical Foundation

IPD sharing plan summary
Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes