# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

30 May 2026

## Evaluation of oral nano-formulation of Curcumin efficacy, as an adjuvant to Capecitabine [Xeloda] + Oxaliplatin (XELOX) or Folinic Acid + 5-Flurouracil + Oxaliplatin (FOLFOX) regimen treatment for metastatic colorectal cancer: A triple blinded, randomized clinical trial

## Protocol summary

**Study aim**

Evaluation of oral nano-formulation of Curcumin efficacy, as an adjuvant to Capecitabin [Xeloda] + Oxaliplatin (XELOX) or Folinic acid + Flurouracil + Oxaliplatin (FOLFOX) regimen treatment for metastatic colorectal cancer

**Design**

A Phase 2 Triple-blind Parallel Randomized Clinical trial with control group on 60 patients. Randomization.com was used for randomization.

**Settings and conduct**

Patients referred to the hematology oncology and radiotherapy oncology department of Imam Reza Hospital, Qaem or Omid of Mashhad, with obtained informed consent form.

**Participants/Inclusion and exclusion criteria**

Metastatic colorectal cancer without NRAS and KRAS mutation or not indicated for targeted therapy; Under XELOX or FOLFOX regime treatment; Patient consent to enter the study; Eastern cooperative oncology group (ECOG) 0/1; Neutrophil count≥1.5×103/µL; Platelet count≥10×104/µL,hemoglobin≥9g/dL; Creatinine≤1.5 mg/dl; ALT,AST ≤5 ×ULN; total bilirubin≤2×ULN

**Intervention groups**

nanocurcumin 40 mg formulated by Exiranano Sina Inc. thrice a day after meal during sixtet 21-day courses (XELOX or FOLFOX) in intervention group. Control group: placebo contain all the ingredients of the main capsule and only curcumin-free with the same appearance in the control group one capsule thice a day after each meal during sixtet 21-day course (Xeloda or FOLFOX) formulated by ExirNanoSina Inc.

**Main outcome variables**

Periodic radiographic checks for metastatic extent C-Reactive Protein(CRP)- Carcinoembryonic Antigen(CEA)- Carbohydrate Antigen 19-9 (CA19-9) The Response Evaluation Criteria in Solid Tumours (RECIST1.1)[Radiographic response of the tumor]

## General information

**Reason for update**

**Acronym**

**IRCT registration information**

IRCT registration number: **IRCT20200408046990N7**
Registration date: **2021-03-13, 1399/12/23**
Registration timing: **registered_while_recruiting**

Last update: **2021-03-13, 1399/12/23**
Update count: **0**

**Registration date**

2021-03-13, 1399/12/23

**Registrant information**

**Name**

Sepideh Elyasi

**Name of organization / entity**

**Country**

Iran (Islamic Republic of)

**Phone**

+98 51 3180 1588

**Email address**

elyasis@mums.ac.ir

**Recruitment status**

**Recruitment complete**

**Funding source**

**Expected recruitment start date**

2021-02-19, 1399/12/01

**Expected recruitment end date**

2023-09-23, 1402/07/01

**Actual recruitment start date**

empty

**Actual recruitment end date**

empty

**Trial completion date**

empty

**Scientific title**

Evaluation of oral nano-formulation of Curcumin efficacy, as an adjuvant to Capecitabine [Xeloda] + Oxaliplatin (XELOX) or Folinic Acid + 5-Flurouracil + Oxaliplatin (FOLFOX) regimen treatment for metastatic colorectal cancer: A triple blinded, randomized clinical trial

**Public title**

Evaluation of oral nano-formulation of Curcumin efficacy, as an adjuvant to XELOX or FOLFOX regimen treatment for metastatic colorectal cancer: A triple blinded, randomized clinical trial

**Purpose**

Treatment

**Inclusion/Exclusion criteria**

**Inclusion criteria:**

Patients with confirmed histological or cytological diagnosis of metastatic colorectal cancer (stage 4) Based on ultrasound results without NRAS and KRAS mutation or no candidate for target therapy(Contraindications or economic incapability) XELOX or FOLFOX regimen candidate Patient consent to study Eastern cooperative oncology group (ECOG) 0/ 1 Hemoglobin≥9g/dL، Neutrophil count≥1.5×103/µL, Platelet count≥10×104/µLCreatinine≤1.5 mg/dl, ALT,AST ≤5 ×ULN، total bilirubin≤2×ULN

**Exclusion criteria:**

current antioxidant users pregnancy or lactation history of hypersensitivity to formulation components diagnosed with more than one cancer history of HF history of autoimmune or immunodeficiency (medical or drug induced) other than chemotherapy history of HBV or HCV candidate of curative surgery

**Age**

From **18 years** old to **70 years** old

**Gender**

Both

**Phase**

2

**Groups that have been masked**

- Participant
- Care provider
- Investigator
- Outcome assessor
- Data analyser
- Data and Safety Monitoring Board

**Sample size**

Target sample size: **60**

**Randomization (investigator's opinion)**

Randomized

**Randomization description**

Simple randomization using Randomization.com will implemented. This method uses simple randomization models such as head or tail, using a random number table or using computer randomization methods, and for example, each client by dropping coin will include in control or intervention group. This method is very simple to implement. Patients will receive enrollment number 1 or 2, respectively, and enter one of two groups of drugs or placebo.

**Blinding (investigator's opinion)**

Triple blinded

**Blinding description**

Nano-curcumin and placebo soft gels packages in identical bottle will be delivered to the clinician. Patients who meet the inclusion criteria will be selected by clinician to be included in the study, randomly assigned to a drug or placebo group and be given a bottle with A or B mark. The physician and the resident of clinical pharmacy will evaluate patients in the course of treatment. Data collection and analysis will be performed by the clinical pharmacy resident and the clinical pharmacist. All of them will be unaware that A or B is on medication or placebo until the end of the study and data analysis.

**Placebo**

Used

**Assignment**

Parallel

**Other design features**

## Secondary Ids

empty

## Ethics committees

### 1

**Ethics committee**

**Name of ethics committee**

Mashhad University of Medical Sciences,

**Street address**

Mashhad University of Medical Sciences,Vakil Abad Blvd

**City**

Mashhad

**Province**

Razavi Khorasan

**Postal code**

9415945344

**Approval date**

2020-12-28, 1399/10/08

**Ethics committee reference number**

IR.MUMS.REC.1399.538

## Health conditions studied

### 1

**Description of health condition studied**

Metastatic colorectal cancer

**ICD-10 code**

C78.5

**ICD-10 code description**

Secondary malignant neoplasm of large intestine and rectum

## Primary outcomes

### 1

**Description**
Metastatic extent
**Timepoint**
after three courses of chemotherapy and the end of six courses
**Method of measurement**
Periodic Radiography

### 2

**Description**
Assess CRP levels
**Timepoint**
At the beginning and after the end of three and six chemotherapy courses
**Method of measurement**
Blood test

### 3

**Description**
Assess CEA and CA19-9 levels
**Timepoint**
At the end of three courses and six courses of chemotherapy
**Method of measurement**
Blood test

### 4

**Description**
Radiographic response of the tumor
**Timepoint**
after three courses of chemotherapy and the end of six courses
**Method of measurement**
(RECIST1.1), based on the doctor's clinical examination

## Secondary outcomes

### 1

**Description**
Evaluate patient performance
**Timepoint**
At the end of three and six chemotherapy courses
**Method of measurement**
EORTC QLQ-C30 questionnare and based on the doctor's clinical examination

### 2

**Description**
Incidence of chemotherapy side effects including neuropathy, HFS; based on the doctor's clinical examination.
**Timepoint**
At the beginning and end of six courses
**Method of measurement**
CTCAE v5 criteria and based on the doctor's clinical examination.

### 3

**Description**
Liver function test
**Timepoint**
At the beginning and end of six courses
**Method of measurement**
CTCAE v5 criteria and based on the clinicin's clinical examination and sonography

## Intervention groups

### 1

**Description**
Intervention group: Nanocurcumin 40 mg capsule formulated by Exir Nanosina Inc. thrice a day (after breakfast, lunch and dinner) for 6 21-day courses of XELOX or FOLFOX regimen
**Category**
Treatment - Drugs

### 2

**Description**
Control group: Placebo with the same appearance prepared by Exir nano Sina Inc. thrice a day (after breakfast, lunch and dinner) for 6 21-day courses of XELOX or FOLFOX regimen
**Category**
Placebo

## Recruitment centers

### 1

**Recruitment center**
**Name of recruitment center**
Imam Reza Hospital
**Full name of responsible person**
Abolghasem Allahyari
**Street address**
Imam Reza Hospital, Shariati Square
**City**
Mashhad
**Province**
Razavi Khorasan
**Postal code**
9137913316
**Phone**
+98 51 3180 1588
**Email**
allahyaria@mums.ac.ir

### 2

**Recruitment center**
**Name of recruitment center**
Omid Hospital

**Full name of responsible person**
Sare Hosseini
**Street address**
Kouhsangi Street
**City**
Mashhad
**Province**
Razavi Khorasan
**Postal code**
9176613775
**Phone**
+98 51 3180 1588
**Email**
hosseinis@mums.ac.ir

**3**

**Recruitment center**
**Name of recruitment center**
Qaem Hospital
**Full name of responsible person**
Hossein Rahimi
**Street address**
Qaem hospital, Ahmadabad Ave
**City**
Mashhad
**Province**
Razavi Khorasan
**Postal code**
9137913316
**Phone**
+98 51 3180 1588
**Email**
rahimih@mums.ac.ir

## Sponsors / Funding sources

**1**

**Sponsor**
**Name of organization / entity**
Mashhad University of Medical Sciences
**Full name of responsible person**
Mohsen Tafaghodi
**Street address**
Faculty of Pharmacy, Ferdowsi University, Vakilabad boulevard
**City**
Mashhad
**Province**
Razavi Khorasan
**Postal code**
17871 91886
**Phone**
+98 51 3180 1337
**Email**
tafaghodim@mums.ac.ir
**Grant name**
**Grant code / Reference number**
**Is the source of funding the same sponsor organization/entity?**
No
**Title of funding source**
Mashhad University of Medical Sciences
**Proportion provided by this source**
100
**Public or private sector**
Public
**Domestic or foreign origin**
Domestic
**Category of foreign source of funding**
*empty*
**Country of origin**
**Type of organization providing the funding**
Academic

## Person responsible for general inquiries

**Contact**
**Name of organization / entity**
Mashhad University of Medical Sciences
**Full name of responsible person**
Mahdi Jannati Yazdan Abad
**Position**
Clinical Pharmacy Resident
**Latest degree**
Medical doctor
**Other areas of specialty/work**
Medical Pharmacy
**Street address**
School of Pharmacy, Ferdowsi University Campus, Vakil Abad Blvd.
**City**
Mashhad
**Province**
Razavi Khorasan
**Postal code**
9415945344
**Phone**
+98 51 3180 1588
**Fax**
+98 51 3882 3251
**Email**
jannatim971@mums.ac.ir

## Person responsible for scientific inquiries

**Contact**
**Name of organization / entity**
Mashhad University of Medical Sciences
**Full name of responsible person**
Sepideh Elyasi
**Position**
Ph.D.
**Latest degree**
Ph.D.
**Other areas of specialty/work**
Medical Pharmacy
**Street address**
School of Pharmacy, Ferdowsi University campus, Vakil Abad Blvd., Mashhad
**City**
Mashhad

**Province**
Razavi Khorasan
**Postal code**
9415945344
**Phone**
+98 51 3180 1588
**Fax**
+98 51 3882 3251
**Email**
elyasis@mums.ac.ir

## Person responsible for updating data

**Contact**
**Name of organization / entity**
Mashhad University of Medical Sciences
**Full name of responsible person**
Mahdi Jannati Yazdan Abad
**Position**
clinical pharmacy resident
**Latest degree**
Medical doctor
**Other areas of specialty/work**
Medical Pharmacy
**Street address**
School of Pharmacy, Ferdowsi University Campus, Vakil Abad Blvd.
**City**
Mashhad
**Province**
Razavi Khorasan
**Postal code**
9415945344
**Phone**
+98 51 3180 1588
**Fax**
+98 51 3882 3251
**Email**
jannatim971@mums.ac.ir

## Sharing plan

**Deidentified Individual Participant Data Set (IPD)**
Yes - There is a plan to make this available
**Study Protocol**
Yes - There is a plan to make this available
**Statistical Analysis Plan**
Yes - There is a plan to make this available
**Informed Consent Form**
Undecided - It is not yet known if there will be a plan to make this available
**Clinical Study Report**
Yes - There is a plan to make this available
**Analytic Code**
No - There is not a plan to make this available
**Data Dictionary**
No - There is not a plan to make this available
**Title and more details about the data/document**
The findings will be published in an article. Study protocol and statistical analysis will be used for article publication. Demographic information and clinical evaluation data, including the level of prognostic factors such as CRP, CEA, etc. will be published without mentioning the names of patients.
**When the data will become available and for how long**
One year after the end of the study it will be published and available in databases.
**To whom data/document is available**
If the funding sponsor allowed, the findings will be available for researchers, clinicians and scientific centers.
**Under which criteria data/document could be used**
The other researchers can use our findings in their review articles and meta analysis.
**From where data/document is obtainable**
For this purpose, you can contact with Sepideh Elyasi at Clinical Pharmacy Department, School of Pharmacy, Vakil Abad Aven, Mashhad, Iran. Email elyasis@mums.ac.ir
**What processes are involved for a request to access data/document**
After receiving the query, dependent on the requested data, the scientific responsible person of the study will responsible to the query in coordinate with the sponsor within 2 weeks.
**Comments**