ISRCTN11970082 https://doi.org/10.1186/ISRCTN11970082

Effect of the drug indomethacin in the treatment of COVID-19 patients

Submission date
19/11/2020

Recruitment status
No longer recruiting

Registration date
20/11/2020

Overall study status
Completed

Last Edited
17/03/2021

Condition category
Infections and Infestations

[_] Prospectively registered
[X] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
COVID-19 is a condition caused by the coronavirus (called SARS-CoV-2) that was first identified in late 2019. This virus can infect the respiratory (breathing) system. Some people do not have symptoms but can carry the virus and pass it on to others. People who have developed the condition may develop a fever and/or a continuous cough among other symptoms. This can develop into pneumonia. Pneumonia is a chest infection where the small air pockets of the lungs, called alveoli, fill with liquid and make it more difficult to breathe.
In 2020, the virus has spread to many countries around the world and neither a vaccine against the virus or specific treatment for COVID-19 has yet been developed. As of April 2020, it is advised that people minimize travel and social contact, and regularly wash their hands to reduce the spread of the virus.
Groups who are at a higher risk from infection with the virus, and therefore of developing COVID-19, include people aged over 70 years, people who have long-term health conditions (such as asthma or diabetes), people who have a weakened immune system and people who are pregnant. People in these groups, and people who might come into contact with them, can reduce this risk by following the up-to-date advice to reduce the spread of the virus.
Indomethacin has shown potent anti-viral properties against SARS-CoV-2 in the lab and against canine coronavirus. It is a well known anti-inflammatory drug. As the body's inflammatory response is responsible for patients progressing to severe disease, this drug may stop the virus from multiplying and calm the immune system. The aim of this study to assess the effectiveness of the drug at preventing mild and moderate patients progressing to severe disease.

Who can participate?
Patients aged 21 to 90 with COVID-19 who are in hospital

What does the study involve?
Participants are treated for 5 days with indomethacin two times a day along with a proton pump inhibitor drug. Standard care is also provided. The following drugs are not to be used: remdesivir, corticosteroids, and paracetamol. Participants are followed up for 14 days and are advised to return to the hospital if they have any problems.

What are the possible benefits and risks of participating?
Benefits may include a quick recovery from COVID-19. The drug has a good safety profile. There have been reports of gastrointestinal (digestive system) bleeding and nephrotoxicity (kidney damage) in higher doses than given in this study. Nevertheless, these will be monitored in the study.

Where is the study run from?
Indian Institute of Technology Madras (India)

When is the study starting and how long is it expected to run for?
July 2020 to January 2021

Who is funding the study?
Mr Kris Gopalakrishnan, Alumnus IIT Madras through the Indian Institute of Technology Madras (India)

Who is the main contact?
1. Dr Rajan Ravichandran
rajanr@iitm.ac.in
2. Prof. R. Krishna Kumar
rkkumar@iitm.ac.in

Contact information

Type(s)
Scientific

Contact name
Prof Ramarathnam Krishna Kumar

ORCID ID
https://orcid.org/0000-0003-4097-6385

Contact details
Department of Engineering Design
Indian Institute of Technology Madras
Chennai
India
600036
+91 (0)9840225856
rkkumar@iitm.ac.in

Type(s)
Scientific

Contact name
Dr Rajan Ravichandran

ORCID ID
https://orcid.org/0000-0002-3375-2060

Contact details
MIOT Hospitals
4/112 Mount Poonamalle High Road
Sathya Nagar
Mannapakkam
Chennai
India
600089
+91 (0)9840375892
rajanr@iitm.ac.in

Additional identifiers

Protocol serial number
CR/20-21/ED/208/ALUM/002553

Study information

Scientific Title
An academic multicentre open-label single-arm study to record the efficacy of indomethacin among confirmed COVID-19 patients with mild and moderate symptoms

Study objectives
Indomethacin is effective in the treatment of mild and moderate COVID-19 patients and decreases the hospitalisation of these patients.

Ethics approval required
Old ethics approval format

Ethics approval(s)
1. Approved 03/08/2020, Institutional Ethics Committee, Narayana Medical College (Nellore 524003, India; +91 (0)8008086119; dean@narayanamedicalcollege.com), ref: NMC/Ethics/Project /006/2020
2. Approved 10/10/2020, Institutional Ethics Committee, Datta Meghe Institute of Medical Sciences (Sawangi (Meghe), Wardha - 442004, Maharashtra, India; +91 (0)7152 287701; icc. dmims@gmail.com), ref: DMIMS(DU)/IEC/2020-21/9034

Primary study design
Interventional

Study design
Multicenter interventional single-arm open-labelled trial and an academic retrospective study to act as control for comparison

Study type(s)
Treatment

Health condition(s) or problem(s) studied
COVID-19 (SARS-CoV-2 infection)

Interventions
1. Indomethacin 25 mg two times a day (or 75 mg SR once a day at the discretion of the treating physician) and a proton pump inhibitor 20 mg (or 40 mg at the discretion of the treating physician) for 5 days
2. Standard care as per the protocol of the hospital
3. The following drugs are not to be administered: remdesivir, corticosteroids, and paracetamol
4. Total duration of treatment: 5 days
5. Follow-up: 14 days
6. The patients are advised to return to the hospital if they have any problems

Intervention Type
Drug

Phase
Not Applicable

Drug/device/biological/vaccine name(s)
Indomethacin, proton pump inhibitor

Primary outcome(s)
Patients deteriorating to severe disease measured using the WHO Ordinal Scale for Clinical Improvement every day during the treatment and after the treatment on the sixth day

Key secondary outcome(s)
1. Kidney function measured using urea and creatinine before the start of the treatment and after the treatment on the sixth day
2. Liver function measured using SGOT and SGPT before the start of the treatment and after the treatment on the sixth day
3. Inflammation measured using C-reactive protein before the start of the treatment and after the treatment on the sixth day

Completion date
01/01/2021

Eligibility

Key inclusion criteria
1. Age 21 to 90 years
2. RT-PCR positive
3. Hospitalised patients
4. The case criteria for the study: LFT and KFT normal

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Key exclusion criteria
1. Hypersensitivity/allergy to drug
2. Gastritis
3. Recent heart attack
4. Severe asthma
5. Acute kidney Injury
6. Patients on immunosuppressants

Date of first enrolment
16/08/2020

Date of final enrolment
10/12/2020

Locations

Countries of recruitment
India

Study participating centre
Narayana Medical College
Nellore
Nellore
India
524003

Study participating centre
Datta Meghe Institute of Medical Sciences
Sawangi (Meghe)
Wardha
India
442004

Sponsor information

Organisation
Indian Institute of Technology Madras

ROR
https://ror.org/03v0r5n49

Funder(s)

Funder type
Other

Funder Name
Mr Kris Gopalakrishnan, Alumnus IIT Madras through the Indian Institute of Technology Madras

Results and Publications

Individual participant data (IPD) sharing plan
The blood tests and CT scans are the data that will be stored and will be available on request from the Principal Investigator of the sites. The request can be sent to the respective centre's ethics committee, who will consider sharing the raw data based on legal and ethical considerations. Consent will be obtained from the participant and data will be anonymised to safeguard the privacy of the participants.

IPD sharing plan summary
Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Preprint results	non-peer-reviewed results in preprint	16/12/2020	17/03/2021	No	No
Protocol file			20/11/2020	No	No