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Study on the performance and safety of Sentinox in COVID-19 patients

Submission date
05/05/2021

Recruitment status
No longer recruiting

Registration date
12/05/2021

Overall study status
Completed

Last Edited
18/10/2022

Condition category
Infections and Infestations

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

Plain English summary of protocol

Background and study aims
Since December 2019, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has spread globally, leading to a pandemic of coronavirus disease 2019 (COVID-19). COVID-19 has led to over 100 million cases and more than 2.3 million deaths worldwide. The published results of pivotal trials of the first COVID-19 candidate vaccines have represented a source of genuine hope for the international community. Numerous countries have rapidly initiated a COVID-19 vaccination campaign, and as of 12 February 2021, more than 150 million doses had been administered throughout the world. However, until now, vaccines have not been available and therefore the importance of preventative measures in managing the spread of the virus have been stressed to control the spread of the disease.

Although the majority of COVID-19 cases are considered mild, a subset of patients with high amount of the virus in their body (high viral load) 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.

Similar to other coronaviruses, SARS-CoV-2 binds to the angiotensin-converting enzyme 2 (ACE-2) receptor on epithelial cells. Recently, some authors have quantitated differences in ACE-2 receptor expression and SARS-CoV-2 infectivity in the nose (high) versus the peripheral lung (low). For these and other evidences researchers speculated that nasal surfaces might be the dominant initial site for SARS-CoV-2 respiratory tract infection. Data in COVID-19-positive subjects support the concept of early infection in the upper respiratory tract (0–5 days) followed by subsequent aspiration and infection of the lower lung.

Nasal irrigations are a common practice of upper respiratory tract care, used either alone or in association with other therapies in several conditions affecting the upper respiratory tract.

This study will investigate the possibility of reducing the virus load in the nose of patients already affected by COVID-19 by nasal washing solution. It is hoped that this could reduce potential additional virus load, and be able to contribute to reducing the spreading of viral infection.

Who can participate?
Adults aged between 18 and 64, with mild COVID-19 symptoms

What does the study involve?
Participants will be allocated to one of three groups, with an equal chance of being in either group (like tossing a coin):
1. Group A: Sentinox treatment performed 3 times/day for 5 days (as an add-on to the standard therapy);
2. Group B: Sentinox treatment performed 5 times/day for 5 days (as an add-on to the standard therapy);
3. Group C: no Sentinox treatment; only the standard therapy will be performed.
The study will consist of 9 visits (daily for 6 days, and after 10 and 21 days), where nasopharyngeal swabs and presence of COVID-19-related symptoms are collected.

What are the possible benefits and risks of participating?
A benefit expected from participation in this study is that nasal washing, as an add-on treatment to standard therapies, may reduce the time taken for patients with COVID-19 to have a negative COVID-19 test result, speeding up the time taken for them to be able to reintegration into society.

Participation in a clinical trial may involve risks. In general, nasal irrigation is a simple procedure that is well-tolerated, has minor common side effects including a sense of discomfort and nervousness, especially during the first use, and a burning sensation upon application. With prolonged use, possible local irritation, pain, and sensitization may occur.

Where is the study run from?
Ospedale Policlinico San Martino IRCCS (Italy)

When is the study starting and how long is it expected to run for?
From March 2021 to December 2021

Who is funding the study?
APR Applied Pharma Research SA (Switzerland)

Who is the main contact?
Dr Giorgio Reiner
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Contact information

Type(s)
Scientific

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Additional identifiers

Clinical Trials Information System (CTIS)
Nil known

ClinicalTrials.gov (NCT)
NCT04909996

Protocol serial number
STX-2021

Study information

Scientific Title
Post-market, confirmatory, interventional, randomized and controlled clinical study to assess the efficacy and safety of Sentinox in COVID-19 patients

Study objectives
To evaluate the performance and safety of Sentinox, a new product intended to reduce the virus load into the nasal airway.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 19/04/2021, Comitato Etico Regionale (Ospedale Policlinico San Martino – IRCCS, Largo Rosanna Benzi, 10 – 16132 Genova, Italy; +39 (0)10 010 555 4212; comitato.etico@hsanmartino.it)

Study design
Single-centre open-label randomized controlled interventional study

Primary study design
Interventional

Study type(s)
Treatment

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

Interventions
This is a single-center, randomized, controlled, open-label, pilot study to assess the safety and the performance of Sentinox medical device in the treatment of mild COVID-19 patients.

The study will consist of 9 visits.
At the screening visit, according to the investigational site procedures, patients with a positive

COVID-19 nasopharyngeal swab (quantitative swab test with RT-PCR Ct value ≤30 for at least 2 genes out of 4) performed at the investigational site on the same day will be summoned. Patients will be enrolled after having signed the informed consent form prior to any other study procedure and after inclusion/exclusion criteria check. According to the investigator's judgment, the patient's clinical outcomes, and the investigational site guidelines, the enrolled patients should be hospitalized or redirected to other structures (e.g. "COVID-19 hotel", patient's home).

At Visit 0 (day 0), the patient will be randomized with a 1:1:1 ratio in one of 3 trial groups:
1. Group A: Sentinox treatment performed 3 times/day for 5 days (as add-on to the standard therapy);
2. Group B: Sentinox treatment performed 5 times/day for 5 days (as add-on to the standard therapy);
3. Group C: no Sentinox treatment; only the standard therapy will be performed.

The allocation of the patient in one of the three study arms will be performed sequentially by the principal investigator or delegates in the order in which the subjects are enrolled and will be reported in a randomization list, including the identification code of the patient and the treatment arm (A, B or C) assigned. The randomization list, retained in the investigation site, is limited to the Sponsor and the investigation staff. Electronic files of the randomization list are password-protected. Hardcopies of the randomization list are kept in an area with limited access.

At Visit 1 (day 1) and Visit 2 (day 2), three nasopharyngeal swabs will be performed. At subsequent planned visits only one nasopharyngeal swab will be performed in the morning. From Visit 1 (day 1) to Visit 5 (day 5), patients will record daily adverse events (AE), concomitant medication, and presence of clinical features COVID-19 related in a diary.
After the end of the treatment visit (Visit 5), three follow-up visits will be performed on day 6, day 10, and day 21 respectively.

Intervention Type
Device

Phase
Not Applicable

Primary outcome(s)
1. Viral load in COVID-19 patients measured using quantitative swab test with RT-PCR at baseline, 1, 2, 3, 4, 5, 6, 10, and 21 days (three swabs daily on day 1 and 2, and one swab daily on other days)

Key secondary outcome(s))
Current secondary outcome measures as of 21/03/2022:
1. Efficacy of Sentinox versus Standard Treatment in term of reduction in viral load in nasal fluids in mild COVID-19 patients stratifying the results according to the initial at day 1, 2, 3, 4, 5, 6, 10, and 21
2. Time profile of Sentinox to affect the profile of viral load analysing the subjects' negativization (expressed as number of negativized patients) at day 1, 2, 3, 4, 5, 6, 10, and 21
3. Time profile of Sentinox to affect the profile of viral load analysing the infectiousness of the patients (expressed as number of infective patients) at day 1, 2, 3, 4, 5, 6, 10, and 21
4. Evaluating the time profile of Sentinox by the profile of COVID-19 viral load measured using quantitative swab test with RT-PCR at baseline, 1, 2, 3, 4, 5, 6, 10, and 21 days (three swabs daily on day 1 and 2, and one swab daily on other days)

5. Evaluating time profile of Sentinox in terms of the duration of clinical features of COVID-19 measured using an ad hoc questionnaire between baseline and 21 days
6. Tolerability of Sentinox measured using a visual analogue scale (VAS) for overall patient treatment tolerance at 6 days
7. Patient satisfaction of Sentinox measured using a 5-point Likert Scale for patient satisfaction at 6 days
8. Safety of Sentinox measured using adverse events recorded in the patient diary between 1 and 5 days and clinical examination at baseline, 1, 2, 3, 4, 5, 6, 10, and 21 days

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Previous secondary outcome measures:
1. Evaluating the time profile of Sentinox by the profile of COVID-19 viral load measured using quantitative swab test with RT-PCR at baseline, 1, 2, 3, 4, 5, 6, 10, and 21 days (three swabs daily on day 1 and 2, and one swab daily on other days)
2. Evaluating the time profile of Sentinox by the duration of clinical features of COVID-19 measured using an ad hoc questionnaire between baseline and 21 days
Clinical features of COVID-19 measured using patient diary between 1 and 5 days
3. Tolerability of Sentinox measured using a visual analogue scale (VAS) for overall patient treatment tolerance at 6 days
4. Patient satisfaction of Sentinox measured using a 5-point Likert Scale for patient satisfaction at 6 days
5. Safety of Sentinox measured using adverse events recorded in the patient diary between 1 and 5 days and clinical examination at baseline, 1, 2, 3, 4, 5, 6, 10, and 21 days

Completion date
31/12/2021

Eligibility

Key inclusion criteria
Current inclusion criteria as of 29/07/2021:
1. Patient informed consent form (ICF) signed
2. Aged ≥18 and ≤64 years at the time of the signature of ICF
3. Subjects who are willing to comply with the requirements of the study protocol, attend scheduled visits and calls for the duration of the study by telephone contact
4. Mild Symptomatic Individuals with COVID-19 confirmed by polymerase chain reaction (PCR) based on WHO guideline (version as of 27/05/2020). In the study will be enrolled COVID-19 patient with RT-PCR Ct value ≤30 for ≥2 genes out of 4, at the first swab. The enrollment of COVID-19 vaccinated patients will be allowed if they will present a “clinical vaccination failure”, defined according to the indications reported in the “Global Manual on Surveillance of AE Following Immunization” (WHO guidelines)
5. Onset of symptoms from not more than 2/3 days

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2. Aged ≥18 and <64 years at the time of the signature of ICF
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4. Mild Symptomatic Individuals with COVID-19 confirmed by polymerase chain reaction (PCR) based on WHO guideline (version as of 27/05/2020). In the study will be enrolled COVID-19

patient with RT-PCR Ct value <30 for ≥2 genes out of 4, at the first swab.
5. Onset of symptoms from not more than 2/3 days

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 years

Sex
All

Total final enrolment
57

Key exclusion criteria
Current exclusion criteria as of 29/07/2021:
1. Other clinically significant and uncontrolled pathologies that may interfere with study results (e.g. rheumatic diseases)
2. Presence of any relevant organic, systemic or metabolic disease (particularly significant history of cardiac, renal, neurological, psychiatric, oncology, endocrinology, metabolic or hepatic disease), or abnormal laboratory values that will be deemed clinically significant based on predefined values
3. Immune system illnesses
4. Known drug and/or alcohol abuse
5. Individuals who are cognitively impaired and/or who are unable to give informed consent
6. Ongoing or prior participation in any other clinical trial of an experimental treatment for COVID-19
7. Ongoing or prior participation in any other clinical trial of an experimental treatment within 30 days from enrollment day
8. Intubated or prior intubation (during present hospitalization) or anticipated intubation within the subsequent 2 h
9. Using high-flow nasal cannula (HFNC) or non-invasive ventilation (NIV)
10. Concurrent or planned treatment with other agents with actual or possible direct antiviral activity
11. Prior hospitalization for COVID-19
12. Positive pregnancy test or breastfeeding woman
13. Known hypersensitivity to the study treatment, its metabolites, or formulation excipient
14. History of severe drug and/or food allergies and/or known allergies to the trial product or its components
15. Any condition that, in the opinion of the Investigator, would complicate or compromise the study or well-being of the patient

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1. Other clinically significant and uncontrolled pathologies that may interfere with study results

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2. Presence of any relevant organic, systemic or metabolic disease (particularly significant history of cardiac, renal, neurological, psychiatric, oncology, endocrinology, metabolic or hepatic disease), or abnormal laboratory values that will be deemed clinically significant based on predefined values
3. Immune system illnesses
4. Known drug and/or alcohol abuse
5. Individuals who are cognitively impaired and/or who are unable to give informed consent
6. Ongoing or prior participation in any other clinical trial of an experimental treatment for COVID-19 (including COVID-19 vaccine)
7. Vaccination with COVID-19 vaccine
8. Ongoing or prior participation in any other clinical trial of an experimental treatment within 30 days from enrollment day
9. Intubated or prior intubation (during present hospitalization) or anticipated intubation within the subsequent 2 h
10. Using high-flow nasal cannula (HFNC) or non-invasive ventilation (NIV)
11. Concurrent or planned treatment with other agents with actual or possible direct antiviral activity
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14. Known hypersensitivity to the study treatment, its metabolites, or formulation excipient
15. History of severe drug and/or food allergies and/or known allergies to the trial product or its components
16. Any condition that, in the opinion of the Investigator, would complicate or compromise the study or well-being of the patient

Date of first enrolment
20/05/2021

Date of final enrolment
30/11/2021

Locations

Countries of recruitment
Italy

Study participating centre
Ospedale Policlinico San Martino IRCCS
Largo Rosanna Benzi
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16132

Sponsor information

Organisation
Applied Pharma Research (Switzerland)

ROR
https://ror.org/05c2q0q08

Funder(s)

Funder type
Industry

Funder Name
APR Applied Pharma Research SA

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated and/or analysed during the current study during this study will be included in the subsequent results publication

IPD sharing plan summary
Other

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		12/05/2022	24/06/2022	Yes	No
Protocol file	version 3	11/11/2021	18/10/2022	No	No