Informed Consent Form· Notice for Participants

Dear Mr/Ms _____:

You (/ your family) are currently hospitalized with acute exacerbation of chronic obstructive pulmonary disease (AECOPD). You are invited to attend a clinical study of AECOPD. Please read the following information as carefully as possible before you decide whether or not to participate in this study. It will help you understand the value and significance, the procedures and duration, as well as the possible benefits, discomfort and risks of participating in this study. If you want, you can also discuss it with your relatives, friends, or consult your doctor to help you make the decision. If you have any question, please do not hesitate to contact the doctor.

1. Background and objective

1.1 Background

Chronic obstructive pulmonary disease (COPD) is currently the fourth leading cause of death in the world, but is projected to be the third by 2020. Acute exacerbations are the most common reason for hospitalization and death for patients with COPD. Not all patients with AECOPD would benefit from antibiotic therapy. Antibiotics overuse wastes medical resources, drives antimicrobial resistance, may cause side effects, negatively affects the microbiome of patients, and distracts from potentially more effective interventions. The GOLD guidelines have been recommended antibiotics prescription in patients of Anthonisen I and II with sputum purulence, as well as patients with mechanical ventilation, which has potential risk in overuse of antibiotics. Procalcitonin (PCT), a reliable biomarker of bacterial infection, has the potential to guide the prescription of antibiotics. In order to evaluate the efficacy of PCT to guide antibiotic management in patients with AECOPD, we aim to perform this multicenter, blind, randomized, controlled clinical trial.

1.2 Objective

This study aim to determine whether PCT-guided antibiotic therapy will reduce the antibiotic prescription rate for AECOPD without negatively impacting the treatment success rate, compared with the GOLD guideline recommendations.

2. Research method

This study has been approved by the Medical Ethics Committee of China-Japan Friendship Hospital. This is a multicenter, randomized, controlled clinical trial which will be conducted in 10 tertiary general hospitals including China-Japan Friendship Hospital, and plans to recruit 500 eligible hospitalized patients with AECOPD to participate voluntarily.

Eligible participants will be randomly assigned to either the PCT-guided antibiotic therapy (PCT group) or the GOLD guideline antibiotic recommendations (guideline group) in a ratio of 1:1. The selection of different groups will not affect the routine treatment for you.

This study will record your personal and disease-related information, including medical history (such as vital signs), routine medical and laboratory examination results. In order to objectively evaluate the changes of your condition, you will be inquired in varying time points (screening period, day1, day 3, day 14 and day 30 after randomization) and the changes will be recorded. The follow-up will continue until day 30 after randomization.

The above routine treatment and medical examinations are all necessary for the clinical treatment of patients with AECOPD. This study does not involve any special examinations or treatment, nor add extra burden on patients.

3. Participants' Responsibility

During the study period, you (/your family) are required to follow the study protocol and undergoing the follow-up by your investigators about your (/your family) outcome.

4. **Participants' Right**

You (/your family) are voluntary to participate in this study. You should not feel any pressure to participate. You have the rights to refuse to attend this study, or at any time inform the investigator to request withdrawal from the study without any discrimination or retaliation. Your data will not be included in the study and any medical treatment. Your benefits will not be affected.

You can keep track of the information and progress of this research. If you have any questions about the study, or if you feel any discomfort during the research, or if the

study involves your rights, you can always consult the investigators. If you have any complaints, please contact the ethics committee of your hospital.

5. The possible benefits during the study

You, people and society will probably benefit from this study, such as the potential avoidance of antibiotics use, and it may be helpful for other patients with similar condition. Treatment and related medical examinations will be performed according to the routine protocol of GOLD guideline regardless of your participation in this study. Investigators will follow up your health condition until day 30 after randomization, regardless you stay in hospital or not, and give you careful guidance.

6. The possible risks during the study

The routine therapy for AECOPD is based on the GOLD guideline. A previous study has shown that recommending not antibiotic therapy for patients with PCT level less than 0.1ng/ml do not occur adverse outcome. If any adverse event occurs in this study, the Medical Experts Committee will identify whether it is related to the study. If the damage is related to the study, the cost of treatment and relevant economic compensation will be provided according to the provisions of China's "Good Clinical Practice (GCP).

7. Participants personal privacy protection

If you (/your family) decide to participate in the study, your personal data in the study are confidential. In all medical records of this study, your name will be replaced by a Pinyin abbreviation. Your medical records and information will be kept in the hospital, only the investigator, research authority department, and ethics committee will be approved to access them. Any public report about the results of this study will not disclose your personal identity.

You (/your family) can choose not to attend this study, or to withdraw at any time without any discrimination or retaliation, and your medical treatment and benefits will not be affected.

Your (/your family's) participation in this study is voluntary. You (/your family) can keep track of the relevant information. If you have any questions related to this research,

or you have a research-related injury, or have questions about the Participants' rights and interests, you can contact the investigator any time.

In the case of an emergency, please contact the investigator:

Contact phone number:

Participants' informed consent form

I have read the introduction of this trial and have the opportunity to discuss and ask questions with my doctor about this trial. All my questions were answered satisfactorily. I know the risks and benefits of participating in this trial, and I understand that participating in this trial is voluntary. I inquired about the details of the trial and all the relevant questions were answered. At the same time, my family and I have plenty of time to consider, but also a clear understanding of the following:

1. I can consult my doctor for more information at any time.
2. All my personal information is confidential; my privacy and right to know will be kept confidential.
3. I can withdraw from this trial at any time without discrimination or retaliation, and medical treatment will not be affected.
4. I agree that investigators, research authorities and ethics committees should consult my medical records after approval.
5. I will get a signed and dated copy of the informed consent.

I decided to agree to participate in this trial and try to comply with the doctor's advice.

Participant or legal representative signature: Signature date:

Contact phone number:

The relationship between the signer and the subject:

I confirm that I have accurately explained to the subject the details of the trial, including its rights, possible benefits and risks, and answered all questions.

The participant volunteered to participate in the trial and had given a signed copy of the informed consent.

Investigator signature: Signature date:

Contact phone number:

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