

Lo-Tung Poh-Ai Hospital Informed Consent for clinical study

[Informed Consent form for asymptomatic diabetes who we are inviting to participate in research on coronary artery calcium score]

Project Title : Impact of a coronary artery calcium-guided primary prevention of major coronary heart disease for asymptomatic coronary artery disease in diabetes: a prospective cohort study

Principle investigator: Meng-Huan Lei

Coinvestigator: Ju-Feng Hsiao, Yu-Chen Hsu, Szu-Yuan Wu

Affiliations

Cardiovascular center, Lo-Tung Poh-Ai Hospital, Taiwan

Ground sponsor : Lo-Tung Poh-Ai Hospital, Taiwan

Version 2, 12/09/2021

Principle investigator : Meng-Huan Lei	Phone 0972-212-001
---	--------------------

Participant name :	ID :
--------------------	------

This Informed Consent Form has two parts:

- **Information Sheet (to share information about the research with you)**
- **Certificate of Consent (for signatures if you agree to take part)**

You will be given a copy of the full Informed Consent Form

PART I: Information Sheet

Introduction

(I am Dr **Lei, Meng-Huan**. We are doing research on diabetes, which is very common in this country. I am going to give you information and invite you to be part of this research. You do not have to decide today whether or not you will participate in the research. Before you decide, you can talk to anyone you feel comfortable with about the research.

There may be some words that you do not understand. Please ask me to stop as we go through the information and I will take time to explain. If you have questions later, you can ask them of me, the study doctor or the staff.)

Lo-Tung Poh-Ai Hospital

Informed Consent for clinical study

Purpose of research

This is clinical study to evaluate benefits of coronary artery calcium score as guide for primary prevention in type 2 diabetes. Our proposals are to evaluate whether primary early prevention based on coronary artery calcium score could reduce incidence of major coronary heart disease (CHD) including cardiac mortality, acute myocardial infarction, coronary revascularization, reduce all cause mortality, cardiac mortality, cardiovascular disease, heart failure, ischemic stroke, heart failure associated hospitalization and chronic kidney disease and related clinical cost effect.

Type of Research Intervention

Coronary artery calcium (CAC) imaging was performed using an 256 sliced multi-detector computerized tomography (MDCT) scanner (Philips Brilliance 256) equipped with high-resolution detectors

Participant selection

We will enroll 1500 asymptomatic T2DM patients who will receive Coronary artery calcium (CAC) imaging using 256 sliced multi-detector computerized tomography (MDCT) scanner as research group and 500 patients as control group from Lan-Yan Diabetes Shared Care Network (public health bureau, clinics, and regional hospital in Yilan County).

Inclusion criteria: more than 40 years old T2DM patients have any one cardiovascular risk as follows

1. total cholesterol > 200mg/dl or low density lipoprotein (LDL) > 100mg/dl
2. blood pressure > 140/90mm/Hg or taking anti-hypertension agents
3. history of smoking
4. family history of early coronary heart diseases
5. proteinuria

Exclusion criteria: history of cardiovascular diseases such as coronary heart disease, stroke, heart failure etc, pregnant

Voluntary Participation

Your participation in this research is entirely voluntary. It is your choice whether to participate or not. Whether you choose to participate or not, all the services you receive at this clinic will continue and nothing will change. If you choose not to participate in this research project, you will be offered the treatment that is routinely offered in this clinic/hospital for diabetes, and we will tell you more about it later. You may change your mind later and stop participating even if you agreed earlier

Procedures and Protocol

Lo-Tung Poh-Ai Hospital

Informed Consent for clinical study

A unfamiliar procedure

After you agree to participate this study, you will receive Coronary artery calcium (CAC) imaging was performed using a 256 sliced multi-detector computerized tomography (MDCT) scanner. It is done without contrast and finished within 10-15mins.

B. Description of the Process

After being enrolled, CAC imaging will be done for study group (CAC score guide group. Based on 2019 AHA/ACC Guideline on the Primary Prevention of Cardiovascular Disease and 2019 ESC/EAS Guidelines for the management of dyslipidemias and result of CAC score(9-12), we will recommend the in-charged doctor to control the cardiovascular risk factors more aggressively. The study protocols are as follows

If CAC score >0, Treadmill ECG or Thallium²⁰¹ Scan would be arranged. If Treadmill ECG or Thallium²⁰¹ show significant ischemia, further study such as CT angiography or coronary angiography will be arranged.

If CAC score > 100 , Aspirin 100mg QD will be suggested to decrease the cardiovascular risk in patients with low risk of bleeding. Previous studies revealed aspirin for patients with CAC score>100 at low bleeding risk indicated net benefit (13-17).

If CAC score > 400 , statin therapy will be suggested to control lipidemia aggressively and target LDL level < 70 mg/dL (9-12)

Control group

We will enroll 500 age, gender, risk factor matched T2DM patient from our hospital. The doctor in charge will give usual care according to the Diabetes associate of Taiwan clinical practice guidelines for diabetes care.

Duration

The research takes place over 5 years in total. During that time, it will be necessary for you to come to our hospital each 5 months. We will check up your data of blood test and medicine recordings from your health information from government cloud. In total, you will be asked to come 12 times to our hospital.

Reference

1. Einarson TR, Acs A, Ludwig C, Panton UH. Prevalence of cardiovascular disease in type 2 diabetes: a systematic literature review of scientific evidence from across the world in 2007-2017. *Cardiovascular diabetology* 2018;17:83.
2. Yang JJ, Yu D, Wen W et al. Association of Diabetes With All-Cause and Cause-Specific Mortality in Asia: A Pooled Analysis of More Than 1 Million Participants. *JAMA network open* 2019;2:e192696.
3. Dedic A, Ten Kate GJ, Roos CJ et al. Prognostic Value of Coronary Computed

Lo-Tung Poh-Ai Hospital Informed Consent for clinical study

- Tomography Imaging in Patients at High Risk Without Symptoms of Coronary Artery Disease. *The American journal of cardiology* 2016;117:768-74.
4. Raggi P, Shaw LJ, Berman DS, Callister TQ. Prognostic value of coronary artery calcium screening in subjects with and without diabetes. *Journal of the American College of Cardiology* 2004;43:1663-9.
 5. Polonsky TS, McClelland RL, Jorgensen NW et al. Coronary artery calcium score and risk classification for coronary heart disease prediction. *Jama* 2010;303:1610-6.
 6. Faustino A, Providência R, Mota P et al. Can cardiac computed tomography predict cardiovascular events in asymptomatic type-2 diabetics?: results of a long term follow-up. *BMC cardiovascular disorders* 2014;14:2.
 7. Yeboah J, Erbel R, Delaney JC et al. Development of a new diabetes risk prediction tool for incident coronary heart disease events: the Multi-Ethnic Study of Atherosclerosis and the Heinz Nixdorf Recall Study. *Atherosclerosis* 2014;236:411-7.
 8. Lei MH, Wu YL, Chung SL, Chen CC, Chen WC, Hsu YC. Coronary Artery Calcium Score Predicts Long-Term Cardiovascular Outcomes in Asymptomatic Patients with Type 2 Diabetes. *Journal of atherosclerosis and thrombosis* 2021;28:1052-1062.
 9. Arnett DK, Blumenthal RS, Albert MA et al. 2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Circulation* 2019;140:e596-e646.
 10. Mach F, Baigent C, Catapano AL et al. 2019 ESC/EAS Guidelines for the management of dyslipidaemias: lipid modification to reduce cardiovascular risk. *European heart journal* 2020;41:111-188.
 11. Grundy SM, Stone NJ, Bailey AL et al. 2018 AHA/ACC/AACVPR/AAPA/ABC/ACPM/ADA/AGS/APhA/ASPC/NLA/PCNA Guideline on the Management of Blood Cholesterol: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Circulation* 2019;139:e1082-e1143.
 12. Grundy SM, Stone NJ, Bailey AL et al. 2018 AHA/ACC/AACVPR/AAPA/ABC/ACPM/ADA/AGS/APhA/ASPC/NLA/PCNA Guideline on the Management of Blood Cholesterol: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Circulation* 2019;139:e1046-e1081.
 13. Nasir K, Cainzos-Achirica M. Role of coronary artery calcium score in the primary prevention of cardiovascular disease. *BMJ (Clinical research ed)* 2021;373:n776.
 14. Ajufo E, Ayers CR, Vigen R et al. Value of Coronary Artery Calcium Scanning in Association With the Net Benefit of Aspirin in Primary Prevention of Atherosclerotic

Lo-Tung Poh-Ai Hospital Informed Consent for clinical study

- Cardiovascular Disease. JAMA cardiology 2021;6:179-187.
15. Cainzos-Achirica M, Greenland P. Coronary Artery Calcium for Personalized Risk Management-A Second Chance for Aspirin in Primary Prevention? JAMA cardiology 2021;6:187-188.
 16. Cainzos-Achirica M, Miedema MD, McEvoy JW et al. Coronary Artery Calcium for Personalized Allocation of Aspirin in Primary Prevention of Cardiovascular Disease in 2019: The MESA Study (Multi-Ethnic Study of Atherosclerosis). Circulation 2020;141:1541-1553.
 17. Zheng SL, Roddick AJ. Association of Aspirin Use for Primary Prevention With Cardiovascular Events and Bleeding Events: A Systematic Review and Meta-analysis. Jama 2019;321:277-287.

Side effect and risks:

Coronary angiography calcium score done via MDCT is an exam for clinical diagnosis and used for daily practice and the risk is very low include very low dose of radiation exposure.

While the possibility of this happening is very low, you should still be aware of the possibility.

We will try to decrease the chances of this event occurring, but if something unexpected happens, we will provide you with treatment and compensate for your loss.

You need to obey your doctor's medical orders and suggestions completely. In total, you will be asked to come 12 times to our hospital and we will record your recordings about blood tests and medicine from the Government health cloud. You may change your mind later and stop participating even once you could not follow the clinical order or be pregnant

Benefits:

There may not be any benefit for you but your participation is likely to help us find the answer to the research question. There may not be any benefit to the society at this stage of the research, but future generations are likely to benefit from the findings of the study: primary early prevention based on coronary artery calcium score could reduce incidence of major coronary heart disease (CHD) including cardiac mortality, acute myocardial infarction, coronary revascularization, reduce all cause mortality, cardiac mortality, cardiovascular disease, heart failure, ischemic stroke, heart failure associated hospitalization and chronic kidney disease and related clinical cost effect.

Confidentiality

We will not be sharing the identity of those participating in the research.

The information that we collect from this research project will be kept confidential. Information

Lo-Tung Poh-Ai Hospital Informed Consent for clinical study

about you that will be collected during the research will be put away and no-one but the researchers will be able to see it. Any information about you will have a number on it instead of your name. Only the researchers will know what your number is and we will lock that information up with a lock and key. It will not be shared with or given to anyone except Meng-Huan Lei who will have access to the information, such as research sponsors, IRB and your clinician.

Sharing the Results

The knowledge that we get from doing this research will be shared with you through community meetings before it is made widely available to the public. Confidential information will not be shared. There will be small meetings in the community and these will be announced. After these meetings, we will publish the results in order that other interested people may learn from our research

Right to Refuse or Withdraw

You do not have to take part in this research if you do not wish to do so and refusing to participate will not affect your treatment at this clinic in any way. You will still have all the benefits that you would otherwise have at this clinic. You may stop participating in the research at any time that you wish without losing any of your rights as a patient here. Your treatment at this clinic will not be affected in any way. You may also stop participating in the research at any time you choose. It is your choice and all of your rights will still be respected.

Reimbursements

We will give you vouchers (NT 200) for each visit to pay for your travel to the clinic/parking and for lost work time. You will not be given any other money or gifts to take part in this research.

Who to Contact

If you have any questions you may ask me now or later, even after the study has started. If you wish to ask questions later, you may contact any of the following: Meng-Huan Lei
Phone 0972-212-001 e-mail : mhlei6401@yahoo.com.tw

This proposal has been reviewed and approved by Research Ethics Committee of Hualien Teu Chi Hospital, which is a committee whose task it is to make sure that research participants are protected from harm. If you wish to find about more about the IRB, you could contact them (Phone: 03-8561825 Ext: 12124 E-mail : IRB@tzuchi.com.tw Address: 707, Sec.3, Chung-Yang Rd., Hualien, 97002,Taiwan)

PART II: Certificate of Consent

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate as a participant in this research.

Lo-Tung Poh-Ai Hospital Informed Consent for clinical study

Print Name of Participant _____

Signature of Participant _____

Date _____

Day/month/year

If illiterate

A literate witness must sign (if possible, this person should be selected by the participant and should have no connection to the research team). Participants who are illiterate should include their thumb-print as well.

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness _____
participant

AND

Thumb print of

Signature of witness _____

Date _____

Day/month/year



Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands that the following will be done:

- 1.
- 2.
- 3.

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Lo-Tung Poh-Ai Hospital Informed Consent for clinical study

A copy of this ICF has been provided to the participant.

Print Name of Researcher/person taking the consent _____

Signature of Researcher /person taking the consent _____

Date _____

Day/month/year