Mass General Brigham

Research Consent Form
General Consent Form Template
Version Date: February 2021

Subject Identification

Protocol Title: Acetate Positron Emission tomography (PET) in patients with Lymphangioleiomyomatosis (LAM) or Tuberous Sclerosis Complex (TSC).
NCT05467397
5/29/2024

Principal Investigator: Carmen Priolo, MD., PhD.

Site Principal Investigator: Maeva Dhaynaut, PhD

Description of Subject Population: Women with LAM or TSC with a renal angiomyolipoma.

About this consent form

Please read this form carefully. It tells you important information about a research study. A member of our research team will also talk to you about taking part in this research study. People who agree to take part in research studies are called "subjects." This term will be used throughout this consent form.

If you decide to take part in this research study, you must sign this form to show that you want to take part. We will give you a signed copy of this form to keep.

Key Information

Taking part in this research study is up to you. You can decide not to take part. If you decide to take part now, you can change your mind and drop out later. Your decision won't change the medical care you get within Mass General Brigham now or in the future.

The following key information is to help you decide whether or not to take part in this research study. We have included more details about the research in the Detailed Information section that follows the key information.

Why is this research study being done?

In this research study we want to learn more about Lymphangioleiomyomatosis (LAM), Tuberous Sclerosis Complex, and Renal Angiomyolipoma.

How long will you take part in this research study?

If you decide to join this research study, it will take you about 4 months to complete the study. During this time, we will ask you to make 1 visit to Brigham and Women's hospital for the consent process and up to **2** study visits to the Massachusetts General Hospital for the PET scans.

What will happen if you take part in this research study?

- If you decide to join this research study, the following things will happen up to 2 PET/CT scans using the radioactive tracer [^{11}C]acetate and placement of a small plastic tube (a.k.a. IV) in your artery and vein, drawing blood from the IV placed in your artery and/or vein,

- Venous and Arterial Catheter Placement – An IV will be placed for each of the 2 PET scans in order to inject the radiotracers for each scan. A catheter will be placed in the radial artery in the arm opposite the IV, during the PET scan only.

- [11C]acetate PET/CT Scanning – The scan will last for approximately 60 minutes.

- Arterial and/or Venous Blood Sampling – Several blood samples will be drawn throughout the PET/CT scan only. If an arterial catheter cannot be placed, the blood samples that would have been taken from the artery will instead be taken, in the same time and amounts, from a second venous catheter (IV).

Why might you choose to take part in this study?

You will not benefit from taking part in this research study. Others with **renal angiomyolipomas and/or LAM** may benefit in the future from what we learn in this study

Why might you choose NOT to take part in this study?

Taking part in this research study has some risks and requirements that you should consider carefully.

Important risks and possible discomforts to know about include the following:

- Radiation exposure from the PET/CT scan in this study which will be up to 9.4 mSv. A milliSievert is a unit of radiation dose. This amount of radiation is about the same as you would normally receive in 3 years from natural background sources from the earth and the sky. If you have participated in other research studies in the past 12 months that have involved radiation exposure, you need to inform the investigators or study staff.
- Placing the venous (IV) catheter into your arm may cause some pain, discomfort, bruising, bleeding, swelling, and redness in that area. There is a slight risk of infection which can be treated.
- The arterial catheter may cause some pain, discomfort, bruising, bleeding, swelling, and redness in that area. It can also cause temporary loss of pulse at the wrist, and fainting. You may have a bruise, feel pain or be uncomfortable for 2-3 days after the catheter is removed. Rarely an infection may occur at this site, and if an infection does occur, it will be treated. An experienced doctor will place the catheter with a local anesthetic administered if needed. The total amount of blood collected will be about one cup, which is about one-third of what is typically collected during a blood donation.

A detailed description of side effects, risks, and possible discomforts can be found later in this consent form in the section called "What are the risks and possible discomforts from being in this research study?"

Other things to consider are 2 study visits occurring at Massachusetts General Hospital that would include a PET scan that could take up to 3 hours each.

What other treatments or procedures are available for your condition?

This study does not offer treatments for your condition. The treatment that was clinically prescribed to you, Rapamycin/ Sirolimus/ Everolimus is currently the standard treatment for angiomyolipomas.

If you have questions or concerns about this research study, whom can you call?

You can call us with your questions or concerns. Our telephone numbers are listed below. Ask questions as often as you want.

Carmen Priolo, Ph.D. is the person in charge of this research study. You can call her at 857-307-0783. She is available 24/7. You can also call our research coordinator Rishi Balraj Chopra at 510-789-5480 [M-F 9-5] with questions about this research study.

If you have questions about the scheduling of appointments or study visits, call **Rishi.**

If you want to speak with someone **not** directly involved in this research study, please contact the Mass General Brigham IRB office. You can call them at 857-282-1900.

You can talk to them about:

- Your rights as a research subject
- Your concerns about the research
- A complaint about the research
- Any pressure to take part in, or to continue in the research study

Detailed Information

A description of this clinical trial will be available on *http://www.ClinicalTrials.gov,* as required by U.S. Law. This Web site will not include information that can identify you. At most, the Web site will include a summary of the results. You can search this Web site at any time.

Why is this research study being done?

We are doing this research to find out if the pictures of kidney tumors called Angiomyolipomas obtained using a PET/CT scanner and the tracer (radioactive dye) [11C]acetate can give us information about the metabolic activity of the tumors and their response to the drugs Sirolimus or Everolimus which are commonly used for treatment in patients with Lymphangioleiomyomatosis (LAM) and Tuberous Sclerosis (TSC).

Who will take part in this research?

- We are asking you to take part in this research study because you have been diagnosed with Tuberous Sclerosis or Lymphangioleiomyomatosis and have been found to have an angiomyolipoma (AML) and have received no prior treatment with rapamycin or rapalogs OR are going to start treatment with rapamycin or rapalogs OR are currently being treated with rapamycin or rapalogs.
- About 16 people will take part in this research study at BWH / MGH.
- The LAM foundation is paying for this research to be done.

What will happen in this research study?

If you agree to enroll in this study, we will ask you to sign this consent form before we do any study procedures.

- *Overview and Preparations on each Study Day* – The procedures explained below may be grouped together to have several occur on the same day. The entire study will take place over 3 study visits, depending on scheduling of each procedure and your preference, over the course of 4 months. At the beginning of each visit we will explain

the study procedures which will happen on that day and answer any questions you have about the procedures.

- The first visit would be for consent (lasting about 1 hour) at Brigham and Women's Hospital (BWH) where you will meet with a physician investigator to go over the consent form and be able to ask them any questions you may have about the study.
- The 2nd and the 3rd visits would be for the PET/CT (lasting about 3 hours each) at the Gordon Center for Medical Massachusetts General Hospital (MGH).

- *All PET/CT Scans* – For each of the 2 PET/CT scans we will:
  - Ask you to empty your bladder before the scan.
  - Insert a catheter (thin, flexible tube with a needle attached) into a vein in your arm to administer the PET tracer.
  - Draw blood for pregnancy test, if you are a woman able to become pregnant. Pregnant women cannot take part in this research study.
  - Ask you to lie down on the imaging table. The table will slide you into the scanner, which is shaped like a tunnel. The tunnel is a little wider than your body. You will need to lie very still during the scanning process.
  - In order to help hold your head still, we may place foam pillows under and around your head.
  - You will be able to hear and speak to the research staff at all times during the scan. We can stop the scan at any time, if needed.
  - The [11C]acetate will be injected and the PET scan will last for 20 to 60 minutes.
  - We will take pictures of your abdomen and lower chest using the low-dose CT scanner. It is very important that you hold still and not move once the CT scan has started until the end of the PET scan.
  - We will use the first catheter to inject a special radioactive agent, called a tracer. PET scanning can make pictures of structures inside the body because the tracer "lights up" on the pictures. This shows us details of organs, tissues, blood vessels, and other parts in your body. The radioactive material breaks down and leaves your body gradually through the urine. It takes about 1 day for the radioactive material to exit your body completely.
  - Make some pictures of your abdomen and chest using the PET scanner. The same scanner performs both CT and PET scans.
  - After the PET scan is done, you may feel a little bit tired, so you can rest a bit before leaving the scanning area.
  - We will measure your vital signs immediately prior to radiotracer injection and after PET/CT imaging is completed for this scan only. The tracer [11C]acetate will be injected and the PET scan will last for 20 to 60 minutes. 24h to 48h after this scan, research staff will call you to ensure you are doing well and you have no side effects from the scan.

- *Arterial Catheterization* –An experienced physician will insert a catheter in the arm opposite the IV placed for the tracer injection, with a local anesthetic administered if needed. In the event that an arterial line cannot be placed, the blood samples that would have been taken from the artery will instead be taken, in the same time and amounts, from a second venous catheter (IV). Blood draws from this catheter would occur at first every 15 seconds and gradually reduce to 10-minute intervals by the end of the scan, the total volume of blood would be less than 150 ml or about 10 tablespoons.

- *Arterial and/or Venous Blood Sampling and Measurement* – Several blood samples will be drawn throughout the PET/CT scan only. Blood draws from the arterial catheter would occur at first every 15 seconds and gradually reduce to 10-minute intervals by the end of the scan, the total volume of blood would be less than 150 ml or about 10 tablespoons. A second venous line may also be used to draw blood samples at selected time points and will be compared to arterial blood samples to compare and find out venous blood can be used instead of arterial. If an arterial catheter cannot be placed, the blood samples that would have been taken from the artery will instead be taken, in the same time and amounts, from a second venous catheter (IV).

- A notation that you are taking part in this research study may be made in your electronic medical record. Information from the research that relates to your general medical care may be included in the record (for example, list of allergies, results of standard blood tests done at the hospital labs).

- Study staff may need to access your medical record in Epic to locate the lesion or know your pulmonary function before and/or after the study scan appointment as well as to compare the PET images obtained for the study to other imaging tests obtained for clinical purposes.

How may we use and share your samples and health information for other research?

Your samples or health information collected for this study will NOT be used or shared for other research, even if we remove identifiable information like your name, medical record number, or date of birth.

Will you get the results of this research study?

No. The research study we are doing is only a stepping stone in understanding the use of PET in angiomyolipoma and LAM patients. Therefore, no information about the results of this research study or the results of your individual participation in the research study will be given to you or your doctor. Tests done for the research using your samples will not be useful in directing your medical treatment. The results of the tests will not be placed in your medical record.

What are the risks and possible discomforts from being in this research study?

If you take part in this research protocol, you will undergo PET scans involving ionizing radiation. These would not be needed for clinical care if you were not in the research study. The type and body parts included in the imaging studies will depend on your diagnosis. In general, exposure to ionizing radiation may have health risks. In clinical imaging studies the benefits to individual normally overweigh risks. In research studies the benefits are normally to future groups or population, may not be to the individual.

You will be exposed to a maximum of approximately (9.4) milli sieverts (mSv) for this research (4.7 mSv per scan). A mSv is a unit of radiation dose. This amount of radiation is about the same as you would normally get in 3 years (3.1 mSV exposure = 1 yr background) from natural background sources from like the earth, the sky, our body itself and practically all things in our surroundings.

The radiation doses used in this study could cause a small increase in the risk of developing cancer later in life.

We always try to use the smallest possible radiation dose needed to get the imaging information we need.

If you are pregnant, you may not be able to participate in this research study. If you are breast feeding**,** you may not be able to participate in research study involving radiopharmaceuticals.

Since the effects of radiation can add up over time, it is important that you tell the study doctor about your past clinical imaging and research-related radiation exposure. If you have taken part in other research studies in the past 12 months that have involved radiation exposure, please tell us. If it appears that your earlier radiation exposure is more than our current guidelines, it is possible that you will not be allowed to participate in this study. Please initial next to your choice below:

_____ I have participated in other research studies (not including this study) involving radiation exposure within the last 12 months.

_____ I have not participated in other research studies (not including this study) involving radiation exposure within the last 12 months.

Risks of the IV:
Placement of the i.v. catheter may be associated with minor discomfort. Bruising or swelling at the insertion site are possible and typically resolve without intervention over the course of several days.

Risks of Arterial Catheter Line:
An intra-arterial catheter will be placed on the arm opposite of the radiotracer injection line for all subjects for blood draws during the PET study. Local infection, swelling, and redness could occur at the sites of line placement, as well as temporary loss of pulse at the wrist. This area may have a bruise or feel uncomfortable for 2-3 days after the catheter is removed. The risks associated with having blood drawn include: bruising, local discomfort, or infection at the site of the needle puncture. Rarely an infection may occur at this site, and if an infection does occur, it will be treated.

Inserting an arterial line (A-line) can hurt more than having a regular i.v. or having blood drawn with a needle. The A-line will be placed with local anesthesia (i.e., lidocaine), which may cause an allergic reaction. Even if the wrist area is first numbed, the insertion may still hurt. Once the A-line is in place, it usually does not hurt.

Risks of A-line include:

- Pain, bleeding, swelling or redness at the wrist. This could mean infection, but infection is rare (less than 1 in 100) and can be treated.
- Short loss of pulse at the wrist if blood flow in the artery is briefly stopped (for example, because of a clot or spasm of the artery).
- Damage to the artery wall or nearby nerves.
- Catheter breaking or falling out.

Lidocaine, the medicine used to numb your wrist, also has some risks. These risks are:

- dizziness
- nausea
- drowsiness
- ringing in the ears

- numbness
- allergic reaction

There have been reports of decreased blood flow to the hand, which resulted in the need for surgery. This is very rare and has not been reported when catheters have been in place for only a few hours for research.
After the catheter is removed:

- You will be asked to stay for at least 30 minutes so you can be monitored.
- You may have a bruise or feel tenderness for 2-3 days around the area where the catheter was placed.
- You will be instructed to avoid lifting anything heavier than a small bag of flour for 24 hours following the study.
- You will be instructed to contact the study staff if:
    - Bleeding occurs after the you leave (rare). Apply pressure to the site and call.
    - The wrist area is painful or red or swollen.

The maximum volume of blood drawn at any scan would be 150ml (10 tablespoons) which is significantly less than the volume drawn for a blood donation (i.e., ~470ml or 32 tablespoons).

Risk of Unexpected Findings:
It is possible that incidental abnormal findings may be discovered during a subject's participation in this study. All images will be reviewed by a certified physician for significant abnormalities and other unexpected findings. The low-resolution CT images will be reviewed by board certified physicians. Discovery of incidental findings may prompt study anxiety and follow-up testing. Any findings of this study will not be shared with your health care provider (primary care physician or treating physician) without your explicit consent. No data acquired for this study will be placed/added into your medical record. In case of unexpected findings, a research physician will provide a copy of the medical information to you

What are the possible benefits from being in this research study?

Individual subjects enrolled in the study would not benefit directly from the study. Others with LAM or TSC may benefit in the future.

Can you still get medical care within Mass General Brigham if you don't take part in this research study, or if you stop taking part?

Yes. Your decision won't change the medical care you get within Mass General Brigham now or in the future. There will be no penalty, and you won't lose any benefits you receive now or have a right to receive.

We will tell you if we learn new information that could make you change your mind about taking part in this research study.

What should you do if you want to stop taking part in the study?

If you take part in this research study, and want to drop out, you should tell us. We will make sure that you stop the study safely. We will also talk to you about follow-up care, if needed.

Also, it is possible that we will have to ask you to drop out of the study before you finish it. If this happens, we will tell you why. We will also help arrange other care for you, if needed.

Will you be paid to take part in this research study?

No remuneration will be provided for participation in this study

What will you have to pay for if you take part in this research study?

Study funds will pay for certain study-related items and services. We may bill your health insurer for, among other things, routine items and services you would have received even if you did not take part in the research. You will be responsible for payment of any deductibles and co-payments required by your insurer for this routine care or other billed care. If you have any questions about costs to you that may result from taking part in the research, please speak with the study doctors and study staff. If necessary, we will arrange for you to speak with someone in Patient Financial Services about these costs."

What happens if you are injured as a result of taking part in this research study?

We will offer you the care needed to treat any injury that directly results from taking part in this research study. We reserve the right to bill your insurance company or other third parties, if appropriate, for the care you get for the injury. We will try to have these costs paid for, but you may be responsible for some of them. For example, if the care is billed to your insurer, you will be responsible for payment of any deductibles and co-payments required by your insurer.

Injuries sometimes happen in research even when no one is at fault. There are no plans to pay you or give you other compensation for an injury, should one occur. However, you are not giving up any of your legal rights by signing this form.

If you think you have been injured or have experienced a medical problem as a result of taking part in this research study, tell the person in charge of this study as soon as possible. The researcher's name and phone number are listed in the beginning of this consent form.

If you take part in this research study, how will we protect your privacy?

Federal law requires Mass General Brigham to protect the privacy of health information and related information that identifies you. We refer to this information as "identifiable information."

In this study, we may collect identifiable information about you from:

- Past, present, and future medical records
- Research procedures, including research office visits, tests, interviews, and questionnaires

Who may see, use, and share your identifiable information and why they may need to do so:

- Mass General Brigham researchers and staff involved in this study
- The sponsor(s) of the study, and people or groups it hires to help perform this research or to audit the research
- Other researchers and medical centers that are part of this study

- The Mass General Brigham ethics board or an ethics board outside Mass General Brigham that oversees the research
- A group that oversees the data (study information) and safety of this study
- Non-research staff within Mass General Brigham who need identifiable information to do their jobs, such as for treatment, payment (billing), or hospital operations (such as assessing the quality of care or research)
- People or groups that we hire to do certain work for us, such as data storage companies, accreditors, insurers, and lawyers
- Federal agencies (such as the U.S. Department of Health and Human Services (DHHS) and agencies within DHHS like the Food and Drug Administration, the National Institutes of Health, and the Office for Human Research Protections), state agencies, and foreign government bodies that oversee, evaluate, and audit research, which may include inspection of your records
- Public health and safety authorities, if we learn information that could mean harm to you or others (such as to make required reports about communicable diseases or about child or elder abuse)
- Other:

Some people or groups who get your identifiable information might not have to follow the same privacy rules that we follow and might use or share your identifiable information without your permission in ways that are not described in this form. For example, we understand that the sponsor of this study may use your identifiable information to perform additional research on various products or conditions, to obtain regulatory approval of its products, to propose new products, and to oversee and improve its products' performance. We share your identifiable information only when we must, and we ask anyone who receives it from us to take measures to protect your privacy. The sponsor has agreed that it will not contact you without your permission and will not use or share your identifiable information for any mailing or marketing list. However, once your identifiable information is shared outside Mass General Brigham, we cannot control all the ways that others use or share it and cannot promise that it will remain private.

Because research is an ongoing process, we cannot give you an exact date when we will either destroy or stop using or sharing your identifiable information. Your permission to use and share your identifiable information does not expire.

The results of this research study may be published in a medical book or journal, or used to teach others. However, your name or other identifiable information **will not** be used for these purposes without your specific permission.

Your Privacy Rights

You have the right **not** to sign this form that allows us to use and share your identifiable information for research; however, if you don't sign it, you can't take part in this research study.

You have the right to withdraw your permission for us to use or share your identifiable information for this research study. If you want to withdraw your permission, you must notify the person in charge of this research study in writing. Once permission is withdrawn, you cannot continue to take part in the study.

If you withdraw your permission, we will not be able to take back information that has already been used or shared with others, and such information may continue to be used for certain purposes, such as to comply with the law or maintain the reliability of the study.

You have the right to see and get a copy of your identifiable information that is used or shared for treatment or for payment. To ask for this information, please contact the person in charge of this research study. You may only get such information after the research is finished.

Informed Consent and Authorization

Statement of Person Giving Informed Consent and Authorization

- I have read this consent form.
- This research study has been explained to me, including risks and possible benefits (if any), other possible treatments or procedures, and other important things about the study.
- I have had the opportunity to ask questions.
- I understand the information given to me.

Signature of Subject:

I give my consent to take part in this research study and agree to allow my health information to be used and shared as described above.

Subject	Date	Time (optional)

Signature of Study Doctor or Person Obtaining Consent:

Statement of Study Doctor or Person Obtaining Consent

- I have explained the research to the study subject.
- I have answered all questions about this research study to the best of my ability.

Study Doctor or Person Obtaining Consent	Date	Time (optional)

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