NCT05851378

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO
CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Study Title: CC# 22925: Hyperpolarized Carbon-13 alpha-ketoglutarate Metabolic Imaging in IDH Mutant Glioma

Principal Investigator:	Susan Chang, MD, Professor of Neurosurgery. UCSF, 400 Parnassus Ave, A808, San Francisco, CA 94143 [redacted]

Study Coordinator	Wendy Ma, CCRP [redacted]

This is a clinical research study about evaluating patients with glioma using neuroimaging. The Principal Investigator, who is the person in charge of this study, or one of the other members of the study team from the UCSF Department of Radiology and Biomedical Imaging will explain the study to you.

STUDY SUMMARY:

Introduction: We are asking you to consider taking part in a research study being at UCSF.

The first part of this consent form gives you a summary of the study. We will give you more details about the study later in this form. The study team will also explain the study to you and answer any questions you have.

Research studies include only people who choose to take part. It is your choice whether or not you want to take part in this study. Please take your time to decide about participating. You can discuss your decision with your family, friends, and health care team.

Purpose of the study: Researchers want to evaluate the role of detecting the chemical compositions of the brain for assessing patients with brain cancer. Through this, we hope to improve the way we manage patients in future.

Study Procedures: If you chose to be in this study, you will have one MR scan, which includes your standard scan as part of your regular care, plus additional research imaging with the injection of an investigational agent. The research component includes an injection of an investigational agent, called hyperpolarized carbon-13 (^{13}C) alpha-ketoglutarate (a-KG), to obtain dynamic metabolic imaging. A-KG is a natural compound in our bodies and has been given to patients with liver and kidney disease and has been shown to be safe. The additional imaging will add about 30 minutes to the time spent in the MRI scanner.

You will have one MR scan. Prior to any imaging, you will go through screening procedures to ensure your eligibility.

Possible Risks: There are risks to taking part in a research study. Some of the most likely risks of participation in this study include:

- Pain at the injection site
- Bruising at the injection site
- Feelings of claustrophobia while in scanner
- Temporary hearing lost from loud banging noise while in scanner

We'll tell you about the other risks later in this consent form.

Possible Benefits: There will be no direct benefit to you from participating in this study.

Your Other Options: You do not have to participate in this study.

Following is a more complete description of this study. Please read this description carefully. You can ask any questions you want to help you decide whether to join the study. If you join this study, we will give you a signed copy of this form to keep for future reference.

DETAILED STUDY INFORMATION

This part of the consent form gives you more detailed information about what the study involves.

Research studies include only people who choose to take part. Please take your time to make your decision about participating. You may discuss your decision with your family and friends and with your health care team. If you have any questions, you may ask your study doctor.

WHY IS THIS STUDY BEING DONE?

The purpose of this study is to determine if the research MR acquisitions will be useful to physicians and patients with brain cancer in making treatment decisions and seeing how well various types of treatment work. Through this, we hope to improve the way we manage patients in the future.

The MR scan includes standard MR imaging for clinical purposes as well as research MR acquisitions, which use hyperpolarized ^{13}C aKG, allowing for pictures of the brain to be taken that wouldn't be available with standard imaging. Hyperpolarized ^{13}C aKG has not been approved for use by the Food and Drug Administration (FDA) and is available for research only. This investigational agent is a non-radioactive isotope of carbon. The compound aKG occurs naturally in the body.

The National Cancer Institute will be providing funding to support the conduct of the research part of the study.

HOW MANY PEOPLE WILL TAKE PART IN THIS STUDY?

Up to 40 people may participate in the study at UCSF.

WHAT WILL HAPPEN IF I TAKE PART IN THIS RESEARCH STUDY?

You will receive one MR examination that includes a standard examination that is part of your regular care, plus the collection of research MR images and the injection of hyperpolarized ^{13}C aKG.

Before you begin the main part of the study...

You will need to have the following tests or procedures to find out if you are eligible for the study. These are part of regular clinical care and may be done even if you do not join the study. You will also have some procedures that are only being done because you are in the study. The list of procedures is provided below. If you have had some of them recently, they may not need to be repeated. This will be up to your study doctor.

You must complete your Screening procedures within 14 days prior to participating in the study. Your screening visit may take up to 2 hours depending on which procedures you have.

- A **medical history**: this will include questions about your health, current medications including natural or herbal products, demographic data, and prior medical history including information about your brain cancer.
- A **physical exam**: This examination will be similar to those done for your regular medical care, and will also include measurements of blood pressure, heart rate, respiratory rate, body temperature, and how much oxygen in your blood.
- **Karnofsky Performance status**: This is an assessment tool to measure your ability to perform everyday tasks.
- **Blood drawing (venipuncture)**: You may be asked to give a blood sample for laboratory tests (creatinine and/or pregnancy test). Approximately 1-2 tablespoons of blood will be drawn by inserting a needle into a vein in your arm.

During the main part of the study...

If the exams, tests, and procedures show that you can be in the main part of the study, and you choose to take part, then you will need the following tests and procedures. Your MR exam will be performed at the UCSF Department of Radiology Imaging Center located at the Mission Bay campus in Byers Hall. Your visit including the standard examination plus the collection of research MR images and the injection of hyperpolarized ^{13}C aKG will take less than 2 hours.

You will have a standard one-hour clinical MR examination as part of your regular care. You will then remain in the MRI machine and have an additional 30-minute MR examination for the purposes of this research.

The following procedures are for all patients.

<u>At Baseline before the ^{13}C aKG Injection:</u>

- Vital signs - blood pressure, heart rate, respiratory rate, body temperature, and how much oxygen in your blood
- Your IV/injection site will be monitored
- You will be placed in the MR scanner and anatomic images will be acquired to define the most appropriate location for obtaining the research data:
    - For your MRI scan, you will lie down on a narrow bed, which will then be placed in a tunnel, which is 6 feet long by 2 feet wide. We may ask you to be repositioned for the acquisition of imaging data after the injection of the investigational agent. The MRI scan takes approximately an hour and a half to complete.
- The ^{13}C aKG will be placed in a syringe and brought into the scan room

Following approval by the study pharmacist, you will receive the ^{13}C aKG into a vein over a period of less than one minute. Shortly after the injection has started, you will be imaged for ^{13}C metabolic imaging, which will be obtained for a period of 2-3 minutes. You will then continue receiving the MR exam. You may receive an injection of Gadolinium if it has been requested by your neuro oncologist for diagnostic purposes, which won't require a second IV placed.

After the MR images have been completed, you will be asked if you are experiencing any side effects, your injection site will be monitored, and your vital signs will be recorded.

In addition, a safety follow-up assessment 1 to 7 days after injection, which will be conducted over the phone, to assess for any late side effects by our research nurse.

Study location: All imaging study procedures will be done at the UCSF Mission Bay campus.

HOW LONG WILL I BE IN THE STUDY?

You will participate in the study for a maximum of 14 days.

CAN I STOP BEING IN THE STUDY?

Yes. You can decide to stop at any time. They will tell you how to stop your participation safely.

It is important to tell the study doctor if you are thinking about stopping so that any risks from the investigational agent can be evaluated. Another reason to tell your doctor that you are thinking about stopping is to talk about what follow-up care and testing could be most helpful for you.

If you withdraw from the study, any data we have already collected from you will remain part of the study records. After you withdraw, the researchers may still get information from your medical records if it is relevant to the study (e.g., laboratory results, treatment courses, health outcomes). You must tell the study team you do not want this information to be collected when you withdraw, otherwise it will be collected.

The study doctor may stop you from taking part in this study at any time if they believe it is in your best interest, if you do not follow the study rules, or if the study is stopped.

WHAT SIDE EFFECTS OR RISKS CAN I EXPECT FROM BEING IN THE STUDY?

You may have side effects while on the study. Everyone taking part in the study will be watched carefully for any side effects. However, doctors don't know all the side effects that may happen. Side effects may be mild or very serious. Your healthcare team may give you medicines to help lessen side effects. Many side effects go away soon after the injection is completed. In some cases, side effects can be serious, long lasting, or may never go away. There also is a risk of death.

You should talk to your study doctor about any side effects that you experience while taking part in the study.

Risks and side effects related to Hyperpolarized ^{13}C aKG Injection

Likely

- Bruising at the injection site
- Pain at the injection site

Less Likely

- Fatigue
- Dizziness
- Decreased sensitivity to touch
- Increased heart rate
- Low blood pressure
- Headache
- Feeling hot/flushing

- Taste disturbance
- Smell disturbance
- Dry mouth
- Urgency to use the bathroom
- Throat pain

Hyperpolarized ^{13}C aKG has had preliminary testing in humans now (nineteen studies to date), without adverse events. However, the listed side effects are based on much larger experience with HP ^{13}Cpyruvate agent, which is expected to have a very similar side-effect profile.

Risks related to Study Procedures

Blood Drawing (venipuncture) risks: Drawing blood may cause temporary discomfort from the needle stick, bruising, and infection.

MRI scan risks: Because the MRI machine acts like a large magnet, it could move iron-containing objects in the MRI room during your examination, which in the process could possibly harm you. Precautions have been taken to prevent such an event from happening; loose metal objects, like pocketknives or key chains, are not allowed in the MRI room. If you have a piece of metal in your body, such as a fragment in your eye, aneurysm clips, ear implants, spinal nerve stimulators, or a pacemaker, you will not be allowed into the MRI room and cannot have an MRI.

Having an MRI may mean some added discomfort for you. You may be bothered by feelings of claustrophobia and by the loud banging noise during the study. Temporary hearing loss has been reported from this loud noise. Therefore, you will be asked to wear ear plugs. At times during the test, you may be asked to not swallow for a while, which can be uncomfortable.

Because the risks to a fetus from MRI are unknown, people who are pregnant must not participate in this study.

The only known potential risk of drug interaction between gadolinium and hyperpolarized ^{13}C aKG is that gadolinium might diminish the polarization of the hyperpolarized ^{13}C aKG. For this reason, hyperpolarized ^{13}C aKG will always be administered prior to the gadolinium procedure of the exam, so that the hyperpolarized ^{13}C aKG will be cleared from the body well before gadolinium is administered.

Reproductive risks: The investigation imaging agent in this study can affect an unborn baby or infant. You should not become pregnant, breastfeed, or father a baby while on this study. If you can become pregnant, you must have a pregnancy test before you enter this study and at regular intervals during the study. If sexual activity with your partner could result in pregnancy, you and your partner must use contraception the entire time you are in the study. Acceptable methods of contraception are:

- An intrauterine device (IUD)
- Hormone-based contraceptives (birth control pills)
- Condoms (male or female) must be used with another method, other than spermicide.
- Complete abstinence from sexual activity that could result in pregnancy.

If you think you may be pregnant at any time during the study, tell the study staff right away. They will talk to you about your choices.

If you suspect your partner becomes pregnant within 1 month after receiving the ^{13}C aKG injection, please inform the study staff immediately. A pregnancy test will be arranged for your partner within 7 days of the pregnancy being reported.

Unknown Risks: The ^{13}C aKG injections may have side effects that no one knows about yet. The researchers will let you know if they learn anything that might make you change your mind about participating in the study.

For more information about risks and side effects, ask your study doctor.

ARE THERE BENEFITS TO TAKING PART IN THE STUDY?

There will be no direct benefit to you from participating in this study. However, this study will help doctors learn more about and gather more information about magnetic resonance (MR) imaging to develop future clinical trials, and it is hoped that this information will help in the treatment of future patients with brain cancer.

WHAT OTHER CHOICES DO I HAVE IF I DO NOT TAKE PART IN THIS STUDY?

You are free to choose not to participate in the study. If you decide not to take part in this study, there will be no penalty to you. You will not lose any of your regular benefits, and you can still get your care from our institution the way you usually do.

HOW WILL MY SPECIMENS AND INFORMATION BE USED?

Researchers will use your specimens and information to conduct this study. Your specimens will only be used for the tests described above and then will be discarded. Once the study is done using your information, we may use the information collected for future research studies or share it with other researchers so they can use it for other studies in the future. We will not share your name or any other personal information. We cannot guarantee that this will prevent future researchers from determining who you are. We will not ask you for additional permission to share this de-identified information.

HOW WILL INFORMATION ABOUT ME BE KEPT CONFIDENTAL?

Participation in research involves some loss of privacy. We will do our best to make sure that information about you is kept confidential, but we cannot guarantee total privacy. Some information from your medical records will be collected and used for this study. If you do not have a UCSF medical record, one will be created for you. Your signed consent form and some of your research tests will be added to your UCSF medical record. Therefore, people involved with your future care and insurance may become aware of your participation and of any information added to your medical record as a result of your participation. Study tests that are performed by research labs, and information gathered directly from you by the researchers will be part of your research records and may be added to your medical record. Your personal information may be given out if required by law. If information from this study is published or presented at scientific meetings, your name and other personal information will not be used.

Authorized representative from the following organizations that may review your research data for the purpose of monitoring or managing the conduct of this study:

- The National Cancer Institute (NCI) and other government agencies, e.g., the Food and Drug Administration (FDA), involved in overseeing research
- UCSF Helen Diller Family Comprehensive Cancer Center
- Representatives of the University of California
- Representatives of the Office of Human Research Protections (OHRP)

Certificate of Confidentiality

This research is covered by a Certificate of Confidentiality. It prevents State and Federal courts, legislatures, and administrative agencies from requiring researchers to reveal information (by subpoena/court order or otherwise) about research participants.

The Certificate DOES NOT:

- stop legally required reporting of child or elder abuse, some communicable diseases, and threats to harm yourself or others.
- stop a sponsoring United States federal or state government agency from reviewing research records to monitor or evaluate programs.
- stop disclosures required by the federal Food and Drug Administration (FDA).
- prevent your information from being used for other research if that is allowed by federal regulations.

The Certificate does not stop you:

- from releasing information about your involvement in this research.
- from having access to your medical record information.

ARE THERE ANY COSTS TO ME FOR TAKING PART IN THIS STUDY?

No. The sponsor has agreed to pay for all items associated with this research study; you or your insurer will not be billed.

WILL I BE PAID FOR TAKING PART IN THIS STUDY?

You will not be paid for taking part in this study.

WILL I BE REIMBURSED IF I PAY EXPENSES RELATED TO MY PARTICIPATION IN THE STUDY?

You will be reimbursed for parking expenses if you take part in this study. In return for your time and travel expenses, your parking will be covered for taking part in this study.

WHAT HAPPENS IF I AM INJURED BECAUSE I TOOK PART IN THIS STUDY?

It is important that you tell your study doctor, if you feel that you have been injured because of taking part in this study. You can tell the doctor in person or call them [redacted].

Treatment and Compensation for Injury: If you are injured as a result of being in this study, the University of California will provide necessary medical treatment. The costs of the treatment may be billed to you or your insurer just like any other medical costs or covered by the University of California depending on a number of factors. The University does not normally provide any other form of compensation for injury. For further information about this, you may call the office of the Institutional Review Board at 415- 476-1814.

WHAT ARE MY RIGHTS IF I TAKE PART IN THIS STUDY?

Taking part in this study is your choice. You may choose either to take part or not to take part in the study. If you decide to take part in this study, you may leave the study at any time. No matter what decision you make, there will be no penalty to you, and you will not lose any of your regular benefits. Leaving the study will not affect your medical care. You can still get your medical care from our

institution.

We will tell you about new information or changes in the study that may affect your health or your willingness to continue in the study.

In the case of injury resulting from this study, you do not lose any of your legal rights to seek payment by signing this form.

WHO CAN ANSWER MY QUESTIONS ABOUT THE STUDY?

You can contact the research team with any questions, concerns, or complaints you have about this study. Contact your study doctor Susan Chang, MD [redacted].

If you wish to ask questions about the study or your rights as a research participant to someone other than the researchers or if you wish to voice any problems or concerns you may have about the study, please call the Office of the Institutional Review Board at 415-476-1814

CONSENT

You have been given copies of this consent form and the Experimental Subject's Bill of Rights to keep.

You will be asked to sign a separate form authorizing access, use, creation, or disclosure of health information about you.

PARTICIPATION IN RESEARCH IS VOLUNTARY. You have the right to decline to participate or to withdraw at any point in this study without penalty or loss of benefits to which you are otherwise entitled.

If you wish to participate in this study, you should sign below.

_____
Printed Name of Participant

_____ _____
Date Participant's Signature for Consent

_____
Printed Name of Person Obtaining Consent

_____ _____
Date Person Obtaining Consent

_____ _____
Date Witness-Only (required if the participant is a non-English Speaker)