Official Study Title:	ADMINISTRATION OF DONOR-DERIVED MULTI-TUMOR-ASSOCIATED ANTIGEN (TAA)-SPECIFIC T CELLS TO PATIENTS WITH ALL (STELLA)
NCT Number:	02475707
Date of Consent:	02/20/2020

H-37042- ADMINISTRATION OF DONOR-DERIVED MULTI-TUMOR-ASSOCIATED ANTIGEN (TAA)-SPECIFIC T CELLS TO PATIENTS WITH ALL (STELLA)

Background

In this consent, "you" refers to you or your child.

You are invited to take part in a research study. Please read this information and feel free to ask any questions before you agree to take part in the study.

This is a clinical trial, a type of research study. Your doctor will explain the clinical trial to you. Taking part in this research study is completely voluntary. Please take your time to make your decision about taking part. You may discuss your decision with your friends and family. You can also discuss it with your health care team. If you have any questions, you can ask your study doctor for more explanation.

You have a type of cancer of blood cells called acute lymphoblastic leukemia (ALL) which has come back, or may come back, or has not gone away after standard treatment, including an allogeneic hematopoietic stem cell transplant. An allogeneic stem cell transplant is a procedure in which stem cells are collected from a donor. The patient receives chemotherapy or radiation to destroy any cancer cells. Then the donor's stem cells are given back to them to replace stem cells killed by the chemotherapy/radiation. We are asking you to volunteer to be in a research study using special blood cells called multiple tumor-associated antigen (TAA)-specific T cells, a new experimental therapy.

We have previously used this sort of therapy to treat Hodgkin or non-Hodgkin lymphomas that are infected with the Epstein-Barr virus (EBV), which causes infectious mononucleosis ("mono" or the "kissing disease"). EBV is found in cancer cells of many patients with Hodgkin and non-Hodgkin lymphoma. This suggests that it may play a role in causing lymphoma. The cancer cells infected by EBV are able to hide from the body's immune system and escape being killed. We previously tested whether special white blood cells, called T cells, that were trained to kill EBV-infected cells could affect these tumors, and in many patients we found that giving these trained T cells caused a complete or partial response.

In several lymphomas and other types of cancers like ALL, the cancer cells do not have EBV. They do however express other proteins that can be targeted in the same way. Based on preliminary results from similar studies, it would appear that this type of treatment is safe. Therefore, we now want to test whether we can make special T cells that can attack other types of cancers that carry similar proteins called tumor-associated antigens (TAAs). The proteins are specific to the cancer cell, so they either do not show up, or show up in low quantities, on normal human cells.

We have grown T cells from your stem cell donor in the laboratory in a way that will train them to recognize the tumor proteins WT1, PRAME and Survivin which are expressed on most ALL cancer cells. We will infuse these cells at least 30 days after your allogeneic stem cell transplant. In this study, we want to see whether these cells will be able to recognize and kill cancer cells that express these proteins. These donor-derived multiTAA-specific T cells are an investigational product not yet approved by the U.S. Food and Drug Administration.

This research study is sponsored by Baylor College of Medicine.

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.

Purpose
The purpose of this study is to find the largest safe dose of donor-derived tumor protein (multiTAA)-specific T cells for patients with ALL.

Procedures
The research will be conducted at the following location(s):
Baylor College of Medicine, TCH: Texas Children's Hospital, TCH: Texas Childrens Hospital Clinical Research Center, and TMH: The Methodist Hospital.

At most, 28 people may be treated on this study.

We have previously taken blood from your stem cell donor to make these cells.

To make the donor-derived multiTAA-specific T cells, we mixed your donor's cells with small pieces of proteins that come from the tumor proteins WT1, PRAME and Survivin. These protein fragments stimulate donor T cells to grow and react against these proteins when they are on the surface of cancer cells. Once we made sufficient numbers of T cells, we tested them to make sure they targeted your cancer cells, but not your normal cells. Then, we froze them.

The cells will be injected by IV into you over 1 to 10 minutes. You may be pre-treated with acetaminophen (Tylenol) and diphenhydramine (Benadryl). Acetaminophen and diphenhydramine are given to prevent a possible allergic reaction to the T cell administration.

Your cancer will be assessed within 4 weeks pre-infusion, and then 4-6 weeks after the infusion. If after the infusion (at least 4 weeks after) there is no change or a reduction in the number of cancer cells measured in the bone marrow, or a decline in cancer-specific markers in the blood, you can receive up to six (6) additional doses of the T cells given at least 4 weeks apart if you wish. All of the treatments will be given by the Center for Cell and Gene Therapy at Houston Methodist Hospital or Texas Children's Hospital. Blood will be drawn at the outpatient clinic at TCH or HMH, or may be drawn by your local physician in their office.

For at least 4 weeks after the infusion, we ask that you not receive any other anti-cancer drugs or high-dose steroids, with the exception of drugs like dasatinib. If you do receive any other therapies, you will be taken off treatment and will not be able to receive additional doses of T cells.

This is a dose escalation study. That means that at the beginning, patients will be started on the lowest dose (1 of 3 different levels) of T cells. Once that dose schedule proves safe, the next group of patients

will be started at a higher dose. This process will continue until all 3 dose levels are studied. If the side-effects are too severe, the dose will be lowered or the T cell injections will be stopped. If you are interested in knowing the dose level you are enrolled on, please ask your study doctor.

MEDICAL TESTS BEFORE TREATMENT:

Before being treated, you will receive a series of standard medical tests:

-Physical exam
- Blood tests to measure blood cells, kidney and liver function.
- Measurement of your ALL (done by a bone marrow biopsy and by tests done on your blood).
- Pregnancy test if you are a female who can have children.

MEDICAL TESTS DURING AND AFTER TREATMENT:

You will receive standard medical tests when you are getting the infusions and after:

- Blood tests to measure blood cells, kidney and liver function.
- Measurement of your ALL 4-6 weeks after the infusion and 8-12 weeks after the infusion (done by bone marrow biopsy and tests done on your blood).

To learn more about the way the T cells are working in your body, an extra 20-40 mL (4-8 teaspoons) of blood will be taken before the infusion, and at Weeks 1, 2, 4 and 8. Afterwards, blood will be collected at 3, 6, 9 and 12 months after the infusion. As much as possible, we will try to avoid extra needle sticks when drawing blood by either using existing catheters, or collecting the blood at the time another clinical test is being collected. We will use this blood to see how long the T cells last, and to look at the immune response to your cancer. We will also look at this in bone marrow samples collected from you at the time points stated above (pre-infusion, 4 - 6 weeks and 8 - 12 weeks post infusion).

If you receive additional doses of T cells, you will have the same tests and evaluations done for each dose as described above.

Leftover blood obtained for follow-up may be stored to perform additional studies related to the safety or activity of infused cells.

We may request a sample of a previous biopsy (ex. bone marrow or other tissue) you¿ve had or from a biopsy performed at any time while you are on this study. The sample may be used to measure your ALL or for research purposes related to this study.

In the event of death, we will request permission to perform an autopsy to learn more about the effects of the treatment on your disease.

STUDY DURATION:

Your active participation in this study will last for approximately one (1) year. If you receive additional doses of the T cells as described above, your active participation will last until one (1) year after your last dose of T cells. We will then contact you once a year for up to 4 additional years (total of 5 years follow-up) in order to evaluate your disease response long-term.

If you decide to withdraw at any time during the study, both samples and data collected during your participation will be maintained.

Research related health information

Authorization to Use or Disclose (Release) Health Information that Identifies You for a Research Study

If you sign this document, you give permission to people who give medical care and ensure quality from Baylor College of Medicine, TCH: Texas Children's Hospital, TCH: Texas Childrens Hospital Clinical Research Center, and TMH: The Methodist Hospital to use or disclose (release) your health information that identifies you for the research study described in this document.

The health information that we may use or disclose (release) for this research includes:

- Information from health records such as diagnoses, progress notes, medications, lab or radiology findings, etc.
- Demographic information (name, D.O.B., age, gender, race, etc.)
- Billing or financial records
- Photographs, videotapes, and/or audiotapes of you

The health information listed above may be used by and or disclosed (released) to researchers, their staff and their collaborators on this research project, the Institutional Review Board, Baylor College of Medicine, TCH: Texas Children's Hospital, TCH: Texas Childrens Hospital Clinical Research Center, and TMH: The Methodist Hospital.

Agents of the U.S. Food and Drug Administration may inspect the research records including your health information. Agents of regulatory agencies such as the U.S. Department of Health and Human Services will be permitted to inspect the research records including your health information.

A Data and Safety Monitoring Board will have access to the research records including your health information.

Use or Disclosure Required by Law

Your health information will be used or disclosed when required by law.

Your health information may be shared with a public health authority that is authorized by law to collect or receive such information for the purpose of preventing or controlling disease, injury, or disability and conducting public health surveillance, investigations or interventions.

Baylor College of Medicine, TCH: Texas Children's Hospital, TCH: Texas Childrens Hospital Clinical Research Center, and TMH: The Methodist Hospital are required by law to protect your health information. By signing this document, you authorize Baylor College of Medicine, TCH: Texas Children's Hospital, TCH: Texas Childrens Hospital Clinical Research Center, and TMH: The Methodist Hospital to use and/or disclose (release) your health information for this research. Those persons who receive your health information may not be required by Federal privacy laws (such as the Privacy rule) to protect it and may share your information with others without your permission, if permitted by laws governing them.

Please note that the research involves treatment. You do not have to sign this Authorization, but if you do not, you may not receive research-related treatment. To maintain the integrity of this research study, you generally will not have access to your personal health information related to this research until the study is complete. However, your health information that is necessary to your care will be provided to you or your physician. At the conclusion of the research and at your request, you generally will have access to your health information that Baylor College of Medicine, TCH: Texas Children's Hospital, TCH: Texas Childrens Hospital Clinical Research Center, and TMH: The Methodist Hospital maintain in a designated record set, which means a set of data that includes medical information or billing records used in whole or in part by your doctors or other health care providers at Baylor College of Medicine, TCH: Texas Children's Hospital, TCH: Texas Childrens Hospital Clinical Research Center, and TMH: The Methodist Hospital to make decisions about individuals. Access to your health information in a designated record set is described in the Notice of Privacy Practices provided to you by representatives of the specific institution where you are being enrolled into this research study which are: Baylor College of Medicine, TCH: Texas Children's Hospital, TCH: Texas Childrens Hospital Clinical Research Center, and TMH: The Methodist Hospital.

Please note that you may change your mind and revoke (take back) this Authorization at any time. Even if you revoke this Authorization, researchers, their staff and their collaborators on this research project, the Institutional Review Board, regulatory agencies such as the U.S. Department of Health and Human Services, FDA, Baylor College of Medicine, Data and Safety Monitoring Board, TCH: Texas Children's Hospital, TCH: Texas Childrens Hospital Clinical Research Center, and TMH: The Methodist Hospital may still use or disclose health information they already have obtained about you as necessary to maintain the integrity or reliability of the current research. If you revoke this Authorization, you may no longer be allowed to participate in the research described in this Authorization.

To revoke this Authorization, you must write to: Dr. Bilal Omer
BCM Center for Cell and Gene Therapy
1102 Bates Avenue, Suite 1630
Houston, TX 77030

This authorization does not have an expiration date. If all information that does or can identify you is removed from your health information, the remaining information will no longer be subject to this authorization and may be used or disclosed for other purposes.

No publication or public presentation about the research described above will reveal your identity without another authorization from you.

Potential Risks and Discomforts

Similar types of T cells have been given to over 100 patients to prevent lymphoma after transplant. We have also given similar cells to over 175 patients to prevent or treat viral infections post-transplant. Most patients had no side-effects. In some patients who were treated because they had large tumors, the cells have caused inflammation leading to fever and flu-like symptoms, as well as swelling at the tumor site. This swelling could be potentially dangerous and even life-threatening, depending on the site. We do not think this will be a high risk in this study as we have rarely seen it in our previous trials.

There is a possibility that body organs like the liver or kidney could be damaged if the cells cause inflammation.

There is also a possibility that these T cells might try to attack other parts of your body and cause graft-versus-host disease (GVHD). GVHD occurs when cells from your bone marrow donor (graft) recognize that your body tissues (host) are different from those of the donor. When this happens, cells in the graft may attack your skin, liver and intestines. If you have moderate GVHD after the transplant, you will not be able to receive the T cells. If you have GVHD after the T cells have been given, we will treat you appropriately. Sometimes though, GVHD can be hard to treat and does not respond to treatment. It can even cause death. We have taken special precautions in the lab to make sure that these cells do not react with other cells in your body.

Another potential hazard is that some of the ingredients used to train the T cells (called peptides) may be present in the T cells we give you. We do not think these will cause you any risk, because peptides made in a similar way have been directly injected into patients with no side-effects. We cannot be sure that there is no risk to you receiving the peptides.

A small percentage of patients that receive this type of therapy develop a life threatening complication known as cytokine release syndrome (CRS). This complication causes high body temperature, increased heart rate, and low blood pressure. This complication can be life threatening. There are treatments for this complication.

Possible side-effects from drawing blood may include pain or bruising at the site of the needle puncture if you do not have a line. There is a very small risk of an infection at the site of the needle puncture or of your line. Also, it is possible that a person may faint when blood is drawn. Care will be taken to clean the site well and therefore decrease the risk of infection.

Possible side-effects from a bone marrow aspirate and biopsy may include pain at the local site, redness, swelling and bruising. There is a very small risk for developing an infection, nerve damage causing numbness and pain, and severe bleeding into the muscle surrounding the biopsy site. Also, it is possible that a person may faint when the aspirate and biopsy are performed. Care will be taken to clean the site well, and therefore decrease the risk for an infection.

Because of potential or unknown effects of the study on a fetus, if you are a woman of child-bearing potential, you must have a negative serum pregnancy test prior to entry into this study.

You have been informed that either you or your partner(s) must utilize one of the more effective birth control methods during the study and for six months after the study is concluded. These consist of total abstinence, oral contraceptives, an intrauterine device, contraceptive implants under the skin, or contraceptive injections. If one of these methods cannot be used, contraceptive foam with a condom is allowed.

Acetaminophen (Tylenol): Rarely, large doses or long-term usage can cause liver damage, rash, itching, fever, and/or lowered blood sugar. These side-effects are unlikely at the doses being used for this study.

Diphenhydramine (Benadryl): Drowsiness, dizziness, headache, irritability, stomach upset, vision changes (e.g. blurred vision), decreased coordination, and/or dry mouth/nose/throat may occur.

Since this is a research study, there may be risks that are currently unknown. We will watch you very carefully for any side-effects. If there are bad side-effects, we will stop the treatment.

There is a potential risk of loss of confidentiality. Your samples and study data will be stored in a protected environment, and the researchers will do everything possible to maintain confidentiality.

There may be unknown risks or discomforts involved. Study staff will update you in a timely way on any new information that may affect your decision to stay in the study. There is a small risk for the loss of confidentiality. However, the study personnel will make every effort to minimize these risks.

Potential Benefits

The benefits of participating in this study may be: It is possible that your immune system may begin to kill the cancer cells, making the leukemia go into remission or go away. Additionally, your participation may help the investigators better understand how the immune system can fight ALL. This could benefit other patients with ALL. However, you may receive no benefit from participating.

Alternatives

The following alternative procedures or treatments are available if you choose not to participate in this study: No further treatment, donor lymphocyte infusions if deemed suitable, or other treatment with chemotherapy. Your doctor will discuss these other options with you. Additionally, the same alternatives are available if after participation in this research project you are not responding to the therapy.

Subject Costs and Payments

You will not be charged for the manufacture or preparation of the T cell product, or for any evaluations that are being done solely as part of your participation in this research project which includes the pregnancy test (if applicable) and the laboratory studies done to monitor how well the T-cells are working. You may be charged for some research-related costs, including the infusion of the product. Specific details of actual charges can be discussed with a Financial Counselor. You will be charged for any tests or treatments that are being done as standard treatment for ALL.

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

Research Related Injury

If you are injured as part of your participation in this study, there are no plans to pay you.

Research personnel will try to reduce, control, and treat any complications from this research. If you are injured because of this study, you will receive medical care that you or your insurance will have to pay for just like any other medical care.

Women of Childbearing Potential

It is possible that the medicines used in this study could injure a fetus if you or your partner becomes pregnant while taking them. Because of the potential risks involved, you or your partner should not become pregnant while you are participating in this study.

If you are sexually active or become sexually active and can get pregnant or can get your partner pregnant, you must agree to use one of the following forms of birth control every time you have sex and for (6) months afterwards:

* oral contraceptives ("the pill"),
* intrauterine devices (IUDs),
* contraceptive implants under the skin, or contraceptive injections,
* condoms with foam.

Should you become pregnant while on this study, you must immediately notify the study personnel.

The investigator will assist you in finding appropriate medical care. The investigator also may ask to be allowed to continue getting information about your pregnancy. You can choose not to provide this information.

Subject's Rights

Your signature on this consent form means that you have received the information about this study and that you agree to volunteer for this research study.

You will be given a copy of this signed form to keep. You are not giving up any of your rights by signing this form. Even after you have signed this form, you may change your mind at any time. Please contact the study staff if you decide to stop taking part in this study.

If you choose not to take part in the research or if you decide to stop taking part later, your benefits and services will stay the same as before this study was discussed with you. You will not lose these benefits, services, or rights.

The investigator, BILAL OMER, and/or someone he/she appoints in his/her place will try to answer all of your questions. If you have questions or concerns at any time, or if you need to report an injury related to the research, you may speak with a member of the study staff: Dr. Bilal Omer at 832-826-0860 during the day and after hours.

Members of the Institutional Review Board for Baylor College of Medicine and Affiliated Hospitals (IRB) can also answer your questions and concerns about your rights as a research subject. The IRB office number is (713) 798-6970. Call the IRB office if you would like to speak to a person independent of the investigator and research staff for complaints about the research, if you cannot reach the research staff, or if you wish to talk to someone other than the research staff.

The National Institutes of Health and the National Cancer Institute may have access to your records for research purposes. Coded information may be provided to the NIH/NCI, such as Patient ID, Patient Zip code, Patient country code, and Patient Birth date (month/year). However, in the event of an audit NIH/NCI might have access to more information that is part of your research record.

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

If your child is the one invited to take part in this study you are signing to give your permission. Each child may agree to take part in a study at his or her own level of understanding. When you sign this you also note that your child understands and agrees to take part in this study according to his or her understanding.

Please print your child's name here _____

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Signing this consent form indicates that you have read this consent form (or have had it read to you), that your questions have been answered to your satisfaction, and that you voluntarily agree to participate in this research study. You will receive a copy of this signed consent form.

Subject	Date
Legally Authorized Representative Parent or Guardian	Date
Investigator or Designee Obtaining Consent	Date
Witness (if applicable)	Date
Translator (if applicable)	Date