Title: Triamcinolone with Vitamin D Synergistic Efficacy in Psoriasis

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INFORMED CONSENT AND AUTHORIZATION

Triamcinolone with Vitamin D Synergistic Efficacy in Psoriasis

Investigator: Jeffrey B. Travers, M.D., Ph.D. Department of Pharmacology & Toxicology, WS Staff Physician

Sponsor name and address: None

Site where study is to be conducted:
Wright State Physician Health Center
725 University Blvd.
Fairborn, Ohio 45324

Phone number for subjects to call for questions: (937) 245-7500 or 775-2463

Introduction and Background Information

You are invited to participate in this research study which explores the combined effectiveness of Vitamin D and topical 0.1% triamcinolone in treating mild to moderate psoriasis.

You were selected as a possible subject because you meet the criteria for this study. The study is being conducted under the direction of Dr. Jeffrey Travers, Principal Investigator. The study procedures/visits will all occur at the Wright State Physician's Health Center. Under certain circumstances that do not allow subjects to come for office visits, the visits will be completed remotely as much as possible.

The purpose of this consent form is to give you information about this research study. It will describe the purpose, procedures, benefits, risks, and discomforts of this study. The principal investigator and/or the study personnel will discuss this study with you and explain everything in detail. Please ask them to explain any words or information that you do not clearly understand.

It is up to you to decide whether or not to take part in this study. If you choose not to participate your decision will not affect your current or future relationship with Wright State Physicians. If you decide to participate, you are free to withdraw at any time without affecting that relationship. Please read this entire consent form and take your

time to make your decision. We encourage you to talk to your doctor, your family, and/or your friends before you decide.

Who is conducting and funding this research study?

Wright State Physicians Pharmacology Translational Unit will be conducting this trial under the direction of Dr. Travers, principal investigator. This study is being carried out with funds received from the Wright State Physicians Pharmacology Translational Unit.

Why is this research study being done?

This study is designed to test whether a combination therapy of topical 0.1% triamcinolone cream with 40,000 IU Vitamin D3 daily is effective in treating skin psoriasis.

Why am I being asked to participate in this research study?

You are being asked to take part in this study because you meet the inclusion criteria for this study. You are an adult (18 years or older) with mild to severe plaque psoriasis (≥ 2% Body Surface Area [BSA]; ≥ 2 Psoriasis Area and Severity Score [PASI]; Investigator Grade Assessment (IGA) of 2 (mild) – 4 (severe) for more than 12 months.

You must not meet any of the following exclusion criteria:

Medical Conditions
Patients will be excluded if they have an unstable or uncontrolled illness, including but not limited to a cerebro-cardiovascular, respiratory, hepatic, renal, gastrointestinal, endocrine, hematologic, neurologic or psychiatric disease or abnormal laboratory values at screening, that in the opinion of the investigator, would potentially affect patient safety within the study or of interfering with the interpretation of data.

Other Exclusion Criteria:
1) Unable to understand/complete informed consent.
2) History of renal impairment
3) History of renal stones
4) History of parathyroid abnormalities
5) Osteoporosis
6) History of severe arthritis
7) Ongoing use of tanning bed or other UV device or excessive sunlight
8) Pregnant or nursing

Subjects currently taking any medication that alters the normal ion balance of the blood (lithium) will be excluded. Subjects should not be on any additional calcium supplements beyond a daily multivitamin 28 days prior to baseline.

Prior Therapy
Potential subjects will not be on any systemic non-biologic therapy (including, but not limited to, oral psoralen plus ultraviolet A [PUVA] light therapy; cyclosporine; corticosteroids; methotrexate; oral retinoids; apremilast; tofacitinib; mycophenolate mofetil; thioguanine; hydroxyurea; sirolimus; tacrolimus; azathioprine; lefludimide; fumaric acid derivatives; or 1, 25 dihydroxy Vitamin D3 and analogues) or phototherapy (including either oral and topical PUVA light therapy, ultraviolet B, excimer laser, or self-treatment with tanning beds or therapeutic sunbathing) **within 28 days prior to baseline**.

Moreover, potential subjects cannot have received topical treatment (including, but not limited to, corticosteroids [upper mid strength or lower potency topical steroids are permitted on the intertriginous areas and face], crisaborole, anthouralin, calcipotriene, topical Vitamin D derivatives, retinoids, tazarotene, pimecrolimus, tacrolimus, emollients and other nonprescription topical products containing urea, >3% salicylic acid, alpha- or beta-hydroxyl acids, or medicated shampoos [for example those that contain >3% salicylic acid, corticosteroids, coal tar, or vitamin D3 analogues]) **within 14 days prior to baseline.**

Additionally, potential subjects cannot have received any biologic agents **within 8 weeks or three half-lives, whichever is greater prior to baseline.**

How many people will be in this study?

Approximately 24 subjects may be involved in this research at Wright State Physicians Pharmacology Translational Unit.

If you choose to take part, you will be in the study for a minimum of 7 months.

Procedures

If you agree to be in this study, you will be one of 24 subjects who will be participating in this research locally. You will be requested to do the following things:

During the Study

If the screening procedures show that you can continue to be in the study, and you choose to take part, then the following will be done. These visits will last approximately 2-3 hour.

Screening Visit 1: (1-2 hours)
Following informed consent, you will work with Study Personnel to define all follow up appointments. You will be placed in a washout period that will vary in length depending on recent systemic or topical medication use. You will be asked to discontinue all medication and treatment related to your psoriasis. Follow-up appointments will be scheduled every 4 weeks until 24 weeks post-baseline for a total of 6 follow-up appointments

Baseline Visit 2: DAY 0 (2-3 hours)

1. Following washout period completion (from previous psoriasis treatments), you will be given a baseline assessment which will involve the following:
    a. Survey
        i. Quality of Life Assessment
        ii. PHQ-9 Assessment
    b. Measurements
        i. Height
        ii. Weight
        iii. Blood Pressure
        iv. Pulse
        v. PASI score/ % BSA
        vi. IGA score
    c. Photography of psoriasis area
    d. Laboratory Testing
        i. Complete blood count (CBC)
        ii. Complete Metabolic Profile (CMP)
        iii. Parathyroid hormone level (PTH)
        iv. 25-hydroxyvitamin D
        v. 1,25 dihydroxyvitamin D

2. Once baseline assessments have been completed, you will be placed on triamcinolone 0.1% cream to be used once daily. You will be instructed on its use. This is not to be used on your face, groin, or axillary psoriasis. The triamcinolone cream will be provided to you in 1 lb. jars or 80g tubes. You will need to bring these medications (e.g., empty and half-filled tubes/jars) to each visit to determine how much topical steroid has been used.

Visit 3: WEEK 4 (+/- 10 days) (1-2 hours)
Following 4 weeks of treatment with triamcinolone alone, you will return to the clinic and bring in all used jars of triamcinolone that were dispensed. These will be measured to define amounts used. You will also receive the following assessments:

a. Survey
    i. Quality of Life Assessment
    ii. PHQ-9 Assessment
b. Measurements
    i. Weight
    ii. Blood Pressure
    iii. Pulse
    iv. PASI score/%BSA
    v. IGA score
c. Photography of psoriasis areas

At this time, you will be randomized into either the Vitamin D3 (USP verified) or placebo group at a 1:1 ratio using standard randomization software, and the only person who will have access to this information is an unblinded study personnel member.

Visit 4: WEEK 8 (+/- 2 weeks) (1-2 hours)
Following 4 weeks of treatment with both triamcinolone (TAC) and Vitamin D3 or placebo, you will be asked to bring in the triamcinolone and Vitamin D3/placebo to quantify use. We will obtain the following assessments:

a. Survey
    i. Quality of Life Assessment
    ii. PHQ-9 Assessment
b. Measurements
    i. Weight
    ii. Blood Pressure
    iii. Pulse
    iv. PASI score/% BSA
    v. IGA score
c. Photography of psoriasis areas
d. Laboratory tests
    i. 25-hydroxyvitamin D
    ii. CMP
    iii. PTH

Visit 5: WEEK 12 (+/- 2 weeks) (2-3 hours)
Following 8 weeks of treatment with both TAC and Vitamin D3/placebo, you will return with the triamcinolone and Vitamin D3/placebo to quantify use. We will obtain the following assessments:

a. Survey
    i. Quality of Life Assessment
    ii. PHQ-9 Assessment
b. Measurements
    i. Weight
    ii. Blood Pressure
    iii. Pulse
    iv. PASI score/% BSA
    v. IGA score
c. Photography of psoriasis areas
d. Laboratory tests
    i. 25-hydroxyvitamin D
    ii. CMP
    iii. PTH

Visit 6: WEEK 16 (+/- 3 weeks) (1-2 hour)
Following 12 weeks of treatment with both TAC and Vitamin D3/placebo, you will return with the triamcinolone and Vitamin D3/placebo to quantify use. We will obtain the following assessments:

a. Survey
    i. Quality of Life Assessment
    ii. PHQ-9 Assessment
b. Measurements
    i. Weight
    ii. Blood Pressure
    iii. Pulse
    iv. PASI score/% BSA
    v. IGA score
c. Photography of psoriasis areas
d. Laboratory tests
    i. 25-hydroxyvitamin D
    ii. PTH
    iii. CMP

At this time, the randomized component of the study will end and the unblinded code will be broken.

All subjects on Vitamin D3 will be allowed to continue treatment, and their next follow up will be in 12 weeks on open-label (at 28 weeks). However, at Week 20 and Week 24 you need to go directly to the laboratory for Vitamin D and calcium blood work.

All subjects on placebo will be offered open-label Vitamin D3 treatment. If you agree, you will return to clinic at 20, 24 and 28 weeks to repeat assessments done at (8, 12 and 16 weeks).

End of Treatment Visit 7: WEEK 28 (+/- 3 weeks) (1-2 hour)
You will come in and will again bring in the triamcinolone and Vitamin D3/placebo to quantify use. We will obtain the following assessments:

a. Survey
    i. Quality of Life Assessment
    ii. PHQ-9 Assessment
b. Measurements
    i. Weight
    ii. Blood Pressure
    iii. Pulse
    iv. PASI score/%BSA
    v. IGA score
c. Photography of psoriasis areas
d. Laboratory tests
    i. 25-hydroxyvitamin D
    ii. PTH
    iii. CMP

Remote Visits (when necessary)
Under certain circumstances that do not allow subjects to come for office visits, the visits will be completed remotely as much as possible.

Potential circumstances this can apply to are:
- COVID-19
- To ensure subject safety
- Requirement to follow state orders that limit travel

Remote procedures:
- Survey
    - Quality of Life Assessment
    - PHQ-9 Assessment
- Laboratory Tests that correspond to the visit
- Shipment of treatment

Termination

If you decide to participate, you are free to withdraw your consent and discontinue participation at any time without penalty. Your decision will not affect your ability to receive medical care for your disease and you will not lose any benefits to which you

would otherwise be entitled. If you withdraw from the study, or the study medication is stopped for any reason:

- You must return all study-related supplies, including all unused study drug.

The principal investigator or study personnel may also withdraw you from the study and the study medication may be stopped without your consent for one or more of the following reasons:

- Failure to follow the instructions of the research study personnel.
- Pregnancy.
- You need treatment not allowed in the study.
- The study is cancelled.
- The principal investigator believes it is in your best interest.
- Any lab values that remain greater than 2 times the upper or lower limit of normal.

Potential Risks and Discomforts

Triamcinolone - topical 0.1% triamcinolone is considered safe for the treatment of psoriasis·

Potential side effects:

- Burning (common and minor)
- Itching (common and minor)
- Irritation (common and minor)
- Dryness (common and minor)
- Folliculitis (common and minor)

Vitamin D3- ingesting 40,000 IU of Vitamin D3 is considered safe, especially for a short period of time (6 months). The usual dose in patients is 400-1000 IU per day, so the doses we will be giving you are much higher. Patients will be asked to avoid additional calcium (e.g., calcium supplements, calcium-containing antacids, or more than 3-4 dairy products per day).

Potential side effects:

- Hypercalcemia (common and minor)
- Nausea/Vomiting (common and minor)
- Weakness (common and minor)
- Fatigue (common and minor)
- Headache (common and minor)

- Loss of appetite (common and minor)
- Stomach Pain (common and minor)

Blood Draw – There may be some pain or discomfort during the procedure. It is possible there may be some bleeding or bruising at the puncture site. There is slight potential for fainting and a rare risk of infection at the site of collection.

Photography – The risk of photography is the possible loss of confidentiality. Pictures will not be of recognizable body parts or markings. Photos will be labeled with the study number and a code that does not identify you.

A risk of this research is a loss of privacy (revealing to others that you are taking part in this study) or confidentiality (revealing information about you to others to whom you have not given permission to see this information).

During the course of the study, you will be informed of any significant new research information (either good or bad), such as changes in the risks or benefits resulting from participation in the research or new alternatives to participation, that might cause you to change your mind about continuing in the research. If new information is provided to you, you may be asked to sign a consent form that includes the new information.

Steps Taken to Reduce Risk of Coronavirus Infection

The following steps are being taken to address the risk of coronavirus infection:

Screening: If you show potential symptoms of COVID-19 (fever, cough, shortness of breath, etc.), you will NOT be permitted to participate in this study at this time. Our study team is required to show no potential symptoms of COVID-19 prior to reporting to work.

Physical distancing: Whenever possible, we will maintain at least 6 feet of distance from you while conducting the study.

Mask/Covering: You and our study team are required to wear a cloth face cover or mask that covers the mouth and nose during the study, even when maintaining at least 6 feet of distance. If you do not have a mask, one will be provided when entering the building. Tissues will be available to cover coughs and sneezes.

Handwashing: You and our study team will wash hands before/during examination or use a hand sanitizer.

Disinfecting materials: When feasible, we will clean and disinfect surfaces between participants, using an EPA-registered disinfectant for hard materials and by laundering

soft materials. Disinfected materials will be handled using gloves, paper towel, plastic wrap or storage bags to reduce the chance of re-contamination of materials.

Electronics: Alcohol-based wipes or sprays will be used to disinfect shared touch screens, mice, keyboards, etc. Surfaces will be dried to avoid pooling of liquids.

Benefits of Taking Part of the Study

You may not receive any personal benefit from being in the study. The study personnel hope that information learned from your participation in this study will increase knowledge about the best ways to treat patients like you. This knowledge will help make it possible to provide the best type of treatment for patients in the future. While you may or may not personally benefit from being in this study, your participation will provide a benefit to others with this condition and to society.

Other Options

If you decide not to participate in this study, there is other care available to you, such as:

- Getting treatment or care without being in a study
- Taking part in another study
- Getting no treatment

The study doctor will discuss these with you.

Privacy and Confidentiality

Total privacy cannot be guaranteed. We will protect your privacy to the extent permitted by law. If the results from this study are published, your name will not be made public. Once your information leaves our institution, we cannot promise that others will keep it private.

Identifiers might be removed from your identifiable private information (or/and identifiable biospecimens). After such removal, the information or biospecimens could be used for future research studies or distributed to another investigator for future research studies without your (or your legally authorized representative's) consent.

FDA Clinical Trial Registry

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.

Treatment for Injury

If you feel that you have been injured as a direct result of participating in the research, contact the researcher, Dr. Travers, or the research office at (937) 245-7500 to talk about your illness or injury. In the case of an emergency that occurs after business hours, call (937) 775-2463.

If you are injured by being in this research study, the investigator will arrange for you to get medical treatment. The sponsor will pay for any reasonable medical costs related to the treatment of your injury. If you are injured, there is no money set aside for lost wages, discomfort, disability, etc. You do not give up your legal rights to by signing this form.

Compensation

There are no costs to you for participating in this research.

For each completed study visit that requires blood draws, you will be compensated $10.00. If you received Vitamin D3, you could receive a total of $100. If you received placebo, you could receive $140.

Your biospecimens (blood) may be used for commercial profit and there is no plan for you to share in this profit.

Research Subject's Rights, Questions, Concerns, and Complaints

Contact the researcher Dr. Travers or research personnel at (937) 245-7500 if you have any questions about this study or your part in it or if you have questions, concerns or complaints about the research.

If you have any questions about your rights as a research subject, you may call the Wright State University Institutional Review Board (IRB) at (937) 775-4462 or irb-rsp@wright.edu. The IRB is an independent committee composed of members of the University community, staff of the institutions, as well as lay members of the community not connected with these institutions. The IRB has reviewed this study.

What are my rights/responsibilities as a research subject?

As a subject, your responsibilities include:

- Follow the instructions of the research study personnel.
- Take the study drug as instructed
- Keep your study appointments. If it is necessary to miss an appointment, please contact the research study personnel to reschedule as soon as you know you will miss the appointment.
- Tell the research personnel about any side effects, doctor visits, or hospitalizations that you may have.
- Tell the research personnel if you believe you might be pregnant or have gotten your partner pregnant.
- Keep the study drug in a safe place, away from children and for your use only.
- Complete your questionnaires as instructed.
- Ask questions as you think of them.
- Tell the research personnel if you change your mind about staying in the study.

While participating in this research study, you should not take part in any other research project without approval from the research personnel of each study.

Authorization to Use and Disclose Your Health Information

State and Federal laws, including the Health Insurance Portability and Accountability Act (HIPAA), require researchers to protect the privacy of your health information. This section of the consent form describes how researchers, with your authorization (permission), may use and release (disclose or share) your protected health information (PHI) for this research study. **Please read this section of the consent form carefully.**

If you sign this document, you give permission to Dr. Travers and his Wright State Physicians Pharmacology Translational Unit research team to use or disclose (release) the following protected health information:

- Your medical records for past medical conditions and medications related to your health and skin condition
- All information (research records and medical records) created during your participation in this research study

The study personnel need this information to conduct the study. This is a study to test the combined effectiveness of 40,000 IU oral Vitamin D with topical 0.1% triamcinolone in treating mild to moderate psoriasis.

To maintain the integrity of this research, you might not have access to any health information developed as part of this study until it is completed. At that point, you generally would have access to your health information.

Disclosure of your protected health information

If you sign this form, the researchers may share your health information during the conduct of the study with:

- Non-Wright State Physicians researchers or organizations working with Wright State Physicians researchers.
- Law enforcement or other agencies, when required by law
- WSU's Institutional Review Board (or other IRB of record), which oversees our research
- The sponsor (the organization paying for) of this research study: Wright State Physicians Pharmacology Translational Unit
- Representatives of government agencies in the United States and other countries (i.e. Food and Drug Administration and the Office of Human Research Protection)
- Other authorized Wright State University/Physicians officials who oversee research and clinical care

The people listed above will use and share your health information to review the quality, safety, and results of the research and may also do additional research.

Please understand that these persons/organizations who may receive your health information may not be required by U.S. Federal privacy laws (such as HIPAA) to protect it and may share your information with others without your permission.

This authorization does not have an expiration date.

However, you can change your mind and cancel this authorization at any time. To cancel this authorization, you must write the study investigator listed at the beginning of this consent form.

If you cancel this authorization, you will no longer be allowed to take part in the research study. If you cancel this authorization, health information you had already allowed us to obtain may still be used and disclosed by research personnel in order to maintain the integrity and reliability of the research, and to report any adverse (bad) effects that may have happened to you.

Right to refuse to sign this Authorization

You have the right to refuse to sign and give your authorization. If you do not sign this form, your non-research related treatment, payment or enrollment in any health plans, or your eligibility for other medical benefits at Premier Health will not be affected in any way.

However, if you do not sign this form, you will not be able to participate in this research study.

Signature of Subject

I have read (or someone has read to me) the above information. I have been given an opportunity to ask questions and my questions have been answered to my satisfaction. I agree to participate in this research and authorize the use and disclosure of my protected health information for this study. I will be given a copy of this signed and dated form.

_____ _____
Signature Date

_____
Printed Name

_____ _____
Signature of Person Obtaining Consent and Authorization Date

_____
Printed Name of Person Obtaining Consent and Authorization