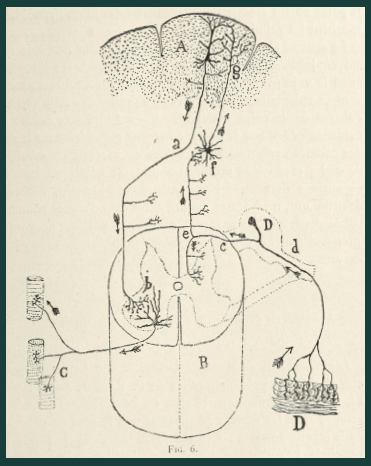

Washington University in St. Louis
School of Medicine

2023 Year in Review

Newsletter Volume XIII

FDA Approves Tofersen for Treatment of SOD1-ALS

Timothy Miller, MD, PhD

Treating ALS took a major step forward in 2023 with the FDA approval of tofersen (Qalsody) for a genetic form of ALS. Tofersen is an antisense oligonucleotide that targets and lowers superoxide dismutase 1 (SOD1) mRNA, thus lowering amounts of SOD1 protein. The Phase III clinical trial for tofersen showed that for people living with ALS with a mutation in this SOD1 gene, lowering levels of the SOD1 gene product is beneficial. For example, those treated with tofersen in the clinical trial showed stabilization of strength, and in some cases, even showed improvement in strength. Dr. Miller and colleagues at Washington University developed this strategy for treating genetic ALS and were instrumental to conducting this clinical trial.

Dr. Miller served as the overall Principal Investigator of the trial and was the lead academic representative at the FDA advisory committee meeting in March; and colleagues at the Washington University ALS Center (Dr. Robert Bucelli, Amber Malcolm, Kelly McCoy Gross, Jesse Markway) enrolled 10 participants in the trial, which represented 9% of the total participants in the North American and European study. The impressive results for treating this genetic form of ALS give the researchers at the ALS Center renewed confidence that non-genetic ALS can also be treated using this same strategy once the right medication is developed. Researchers at the ALS Center continue to work hard to develop the right medications for all forms of ALS.

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Cream of Potato Soup

400 CALORIES PER SERVING

INGREDIENTS

- 4 tablespoons butter
- 2 cups celery, carrots, and onions minced
- 3 cloves garlic minced
- 1/4 cup flour
- 3 cups whole milk
- 1-2 cups vegetable broth
- 2-3 medium potatoes peeled and cubed
- salt & pepper to taste

INSTRUCTIONS

- Melt butter in soup pot
- Add minced celery, carrots, and onions, seasonings, and salt; sauté vegetables until soft
- Add flour to vegetables and stir
- Stir in milk, small amounts at a time, to create a smooth texture
- Add potatoes and broth
- Simmer 30-40 minutes until potatoes are very soft
- Blend the soup with a hand blender

Adapted from: https://pinchofyum.com/creamy-potato-soup

A Guide to Common Clinical Research Terms

Rebecca LiVigni, CRC

Clinical research has a highly specialized vocabulary with a vast number of acronyms and abbreviations that help facilitate scientific communication. Whether you are new to clinical research or an experienced member of the research team, understanding and remembering the nuances of clinical research vocabulary can be challenging. And while it may be confusing or difficult when you first encounter these terms, it's important for patients and research participants to understand the conversations related to their care. Here is a list of common terms you may hear in your interactions with our research team that can help with your general understanding. As always, ask for clarification or further explanation if something isn't making sense!

Efficacy

The ability of a drug or treatment to produce a beneficial result - often by reviewing the outcomes of assessments gathered during the trial. A drug demonstrates efficacy if it is effective at the dose tested against the illness for which it is prescribed.

Informed Consent

A process by which a participant or legal guardian voluntarily confirms their willingness to participate in a particular trial, after having been informed of the rights of a participant and details about the study, such as its purpose, duration, required procedures, and key contacts. Informed consent is usually documented by means of a written, signed, and dated consent form, which has been approved by an IRB.

Adapted from: https://www.nia.nih.gov/research/dgcg/nia-glossary-clinical-research-terms

Adverse Event (AE)
Any unfavorable change in the health of a participant including abnormal laboratory findings, symptoms, or disease, that happens during participation in a study or within a certain period after the study has ended. This change may or may not be caused by the intervention being studied.

Baseline
The initial time point in a clinical trial, just before a participant starts to receive the experimental treatment which is being tested. At this reference point, measurable values such as blood pressure, strength, or laboratory values are recorded. The safety and efficacy of a drug are often determined by monitoring changes from the baseline values.

Double Blind
A clinical trial in which neither the participating individuals nor the study staff knows which participants are receiving the experimental drug and which are receiving a placebo or another therapy. Double-blind trials are thought to produce objective results, since the knowledge, expectations and biases of the doctor and the participant about the experimental drug or treatment do not affect the outcome.

IRB (Institutional Review Board)
A committee of physicians, statisticians, researchers, community advocates and others that ensures that a clinical trial is ethical and that the rights of study participants are protected. Every institution that conducts or supports biomedical or behavioral research involving human participants must, by federal regulation, have an IRB that approves and periodically reviews the research in order to protect the rights of human participants.

Placebo Controlled Study
A method of investigation in which an inactive treatment (the placebo) is given to one group of participants, while the treatment being tested is given to another group. The results obtained in the two groups are then compared to see if the investigational treatment is more effective in treating the condition.

Source Documents
Original documents, data, and records (e.g., hospital records, clinical and office charts, laboratory notes, memoranda, participant diaries, recorded data from automated instruments, etc.) that are used in a clinical trial.

Dr. Smith and the ALS Center team presented a poster on this study at the 2023 NEALS Conference in Clearwater, FL.

Rehabilitation in SOD1 ALS Patients During Tofersen Treatment

Sean Smith, MD

The ALS Center's Dr. Sean Smith is leading a longitudinal study to evaluate the effects of combined treatment of tofersen and neuromuscular rehabilitation in patients with SOD1-ALS. Our early experience with tofersen in the clinic setting through the Biogen-sponsored expanded access program (EAP) has shown that treatment with tofersen in combination with physical and/or occupational therapy may maintain or even improve neurologic and functional recovery in SOD1-ALS patients over time. Tofersen is the first FDA-approved treatment to show disease stabilization and improvement in people living with ALS. This study will provide essential knowledge of ALS rehabilitation in patients on disease-stabilizing treatments.

ALS Center Announces New Tuesday Clinic Option

Kelly McCoy Gross, RN

In 2023, the ALS Center launched a new twice-monthly option for people living with ALS to be seen in a multi-disciplinary clinic setting. The clinic runs the first and third Tuesday of each month from 8 am to noon and includes full evaluations with an ALS center provider, plus an occupational therapist, speech therapist, and physical therapist.* The clinic also includes nursing support, a dietician, a wheelchair specialist from NuMotion, and an ALS Association representative. This is a great opportunity for patients to establish care with these important disciplines. Patients can choose to return on a regular basis, rotate Tuesday visits with Thursday or virtual visits, or just come once to get recommendations to take to providers closer to home. If you are interested in attending, please speak to your neurologist today.

*separate copays for the ALS Center provider and the 3 therapy appointments may apply. Contact the ALS Center for details.

Mega Calorie Smoothie

1700 CALORIES

INGREDIENTS

- 2 cups whole milk
- 2 bananas
- 2 scoops protein powder
- 1 cup ice cream (same flavor as protein powder)
- 2 tablespoons olive oil
- 1/2 cup oats (soak overnight)
- 4 tablespoons smooth peanut butter
- Add sweetener (honey, agave syrup, or maple syrup) to taste

Source: https://easyhealthysmoothie.com/high-calorie-smoothie-recipes-healthy-weight-gain/

Currently Enrolling Studies

Please note that the status of studies is constantly changing. Please check with your provider or a member of the ALS Research Team for the most updated list. Find more information about the currently enrolling studies at *https://alscenter.wustl.edu/clinical-trials/*

**Indicates study is open to healthy controls*

OBSERVATIONAL

DNA Repository*

Target ALS Biomarker Study: Longitudinal Biofluids, Clinical Measures, and At-Home Measures*

CSF Biomarker Repository*

The DIALS (Dominant Inherited ALS) Network

IMC - Intermuscular Coherence: A Biomarker for Early Diagnosis and Follow Up of ALS

Biomarkers in Neurological and Neuromuscular Disorders*

ALS Feeding Tube Algorithm

INTERVENTIONAL

HEALEY Platform Trial

ATLAS - Phase 3 Trial of Tofersen (Pre-symptomatic Individuals with SOD1 mutation)

FUSION (ION363CS1) - Phase 1-3 Trial of ION363

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