Clinical Trial for Prenatal treatment of boys affected by X-linked Hypohidrotic Ectodermal Dysplasia

Information for Families

The EspeRare Foundation and their partner, Pierre Fabre Medicament, are developing a drug for X-linked hypohidrotic ectodermal dysplasia (XLHED). The drug is called ER004 and this is the same drug that was previously developed by Edimer and was known at the time as EDI200. After the failure of a clinical trial in newborn XLHED-affected babies conducted by Edimer, the drug development was put on hold. Prof Schneider, a German paediatrician actively involved in ER004's clinical development, revived hope for the XLHED community when he showed that while ER004 does not work in newborn babies, ER004 shows promise when given before birth to XLHED-affected fetuses. Sweat function was shown to be normalised in a small number of XLHED-affected boys treated before birth https://www.nejm.org/doi/full/10.1056/NEJMoa1714322. It is now Esperare and Pierre Fabre's intention to reproduce and confirm these results in a robust clinical trial.

If approved, ER004 will be the first drug to improve the main symptoms of this rare genetic disorder, and it will do so through a single-course treatment of 3 injections given before birth. It may be the first drug to improve the quality of life for boys with XLHED.

What are Clinical Trials?

Clinical trials are an important part of developing new medical treatments. They help doctors and scientists determine if new drugs are safe, effective, and prescribed at the correct dosage and timing. The Prenatal XLHED Clinical Trial is a Phase II pivotal study. Trials conducted in Phase II determine how well the proposed drug meets the goals of the study for safety, effectiveness, and optimal dosing to achieve the best results. A pivotal trial is a study that intends to generate evidence and data that Regulatory Agencies use to decide whether a drug can be approved as a new treatment.

Who may participate?

We are looking for women who know or suspect that they are XLHED carriers and who are thinking of becoming pregnant or are in the early stages of their pregnancy. Women pregnant with boys in the next 24 months may be eligible to participate in the study.

How will I know if my unborn son is a candidate?

A simple blood test can determine whether you are a carrier of XLHED and whether your future child could develop XLHED. If you are pregnant, the XLHED status of your future baby boy can be determined via genetic testing (such as amniocentesis). Knowing that you are a carrier of XLHED and that you are pregnant with a boy is sufficient information to consider taking part in the study. Confirmation of the XLHED status of your unborn son will determine whether you can enter the study or not.

Available Genetic Testing

Women who suspect they are carriers of XLHED should have a genetic test to determine XLHED carrier status and whether or not their child may develop XLHED. Genetic testing may be available to women or to their unborn sons at risk to develop XLHED.

For information regarding genetic testing, please speak with your family doctor.

Will my child receive the new drug?

Women pregnant with XLHED-affected male fetuses taking part in the study will:

- Receive 3 doses of the ER004 drug, before birth through a series of 3 injections into the amniotic fluid:
    - At pregnancy weeks 25, 28-29 and 31-32
- Be required to attend a number of visits at the treatment site, following the injections and until their child is 5 years old, to evaluate long-term safety and efficacy effects of the given drug

What if I decide not to participate?

Participation in a clinical trial is always voluntary—and choosing not to participate will have no effect on current medical care patients are receiving or may receive in the future. It's also important to know that if as a patient you decide to participate in a clinical trial, you may withdraw at any time—and for any reason.

For More Information

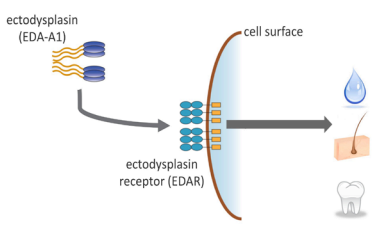
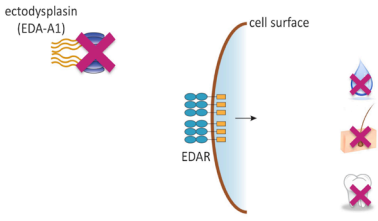
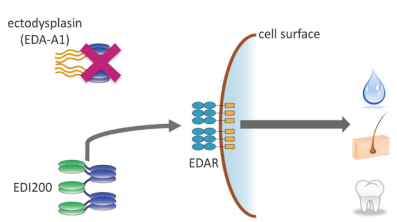
Pregnant women and their unborn XLHED-affected sons must be enrolled in the clinical trial during the second trimester, between pregnancy weeks 19 and 24. Therefore, it is important that families consider this information as early as possible. For more information about the clinical trial visit: www.clinicaltrials.gov (search for clinical trial EDELIFE) or contact the following:

Mary Fete
National Foundation for Ectodermal Dysplasias
www.nfed.org
mary@nfed.org

Clinical Trial of a Possible Treatment

Under typical conditions, a signalling molecule called ectodysplasin-A (EDA1) starts a pathway that is very important to the growth of ectodermal tissues in the developing fetus (such as sweat glands, teeth, and hair). This pathway starts early on in embryonic life. For people affected by XLHED, this signalling molecule is missing due to a change in their genetic information. Without this signal, the ectodermal tissues don't grow as expected, or in some cases don't grow at all, leading to the symptoms people affected by XLHED experience.

ER004 is a version of the signalling molecule EDA1 that is made in the laboratory. ER004 is currently in a clinical trial as a potential treatment for XLHED. The rationale for use of ER004 is to provide XLHED patients this molecule as a replacement for their missing EDA1 during key development periods in the fetal development period to positively impact the formation of ectodermal structures.

The normal Physiological Process	The Medical Problem in XLHED	ER004, A Possible Solution
A protein called "ectodysplasin" is needed for glands, hair, teeth, & skin to develop properly. This is happening very early in life. 	In XLHED, ectodysplasin is missing. Because of this glands, hair, teeth, and skin do not develop properly. 	In animal studies EDI200 replaced ectodysplasin and helped glands, hair, teeth, and skin to develop. This is now being testing in human clinical trials. 

Resources for You

To learn more about XLHED, clinical studies, research updates, and other resources for you and your patients, visit https://www.nfed.org/