JOHNS HOPKINS MEDICINE

Approved October 1, 2015

Research Study entitled "Placebo-controlled trial of Dextromethorphan in Rett Syndrome"
JHM IRB Study # NA_00064949

Dr. Sakkubai Naidu, Principal Investigator, is initiating a double blinded placebo controlled clinical drug trial using dextromethorphan (DM) in Rett Syndrome (RTT), at the Pediatric Clinical Research Unit (PCRU) of the Johns Hopkins Hospital/Kennedy Krieger Institute, that is sponsored by the FDA and Johns Hopkins Institute for Clinical and Translational Research (ICTR)/NBRU.

It has been shown that receptors for a certain brain chemical called glutamate, in particular the NMDA type, are increased in the brain of young RTT patients (<10 years of age). This chemical and its receptors, when in excess, cause harmful over-stimulation of nerve cells in the brain, contributing in part to the seizures, behavioral problems, and learning disabilities in RTT. We propose to initiate a specific treatment using DM to counter/block the effects of this brain chemical and its excessive receptors because of DM's identified ability to block NMDA receptors. DM is available for human consumption. Infants and children with respiratory infections and cough, as well as non-ketotic hyperglycinemia, are treated with DM, which has been well tolerated.

The study will last for 3 months and will be limited to *MECP2* mutation-positive males and females age one year – 9.99 years of age. This clinical trial, which is a placebo-controlled study, will randomize patients to the drug or placebo to determine the benefits of DM vs placebo on cognition, behavior, or seizures if present.

Your child will come twice to the Pediatric Clinical Research Unit (PCRU) at Johns Hopkins ICTR. The first hospital stay will be for one day and one night, before s/he starts the DM or placebo. The extended day end of study outpatient visit will be 3 months after s/he starts taking DM or placebo.

There will also be two interim follow up evaluations required at 2 weeks and 1 month after s/he starts taking the DM or placebo consisting of a Neurological evaluation, EKG, and blood work, which can take place at your local doctor's office or at Johns Hopkins, and will be paid for by this study. Our research staff will contact you at least weekly during the first month and at least monthly thereafter until the end of the 3-month study.

There is no financial compensation for participating in this research study. If you would like more information regarding the study's Procedures, Risks, Benefits, or other details, please contact our study coordinator, Barbara Ann Bradford, in the Neurogenetics Unit at the Kennedy Krieger Institute (bradford@kennedykrieger.org) or at phone # 443-923-2778 or # 1-800-873-3377.