New study focuses on treatment for epilepsy caused by tuberous sclerosis

8 May 2017

A clinical trial of a drug that researchers hope can prevent or delay the onset of epilepsy in children with tuberous sclerosis has begun at McGovern Medical School at The University of Texas Health Science Center at Houston (UTHealth).

The Houston site, one of just seven in the country, is led by Mary K. Koenig, M.D., associate professor and Endowed Chair of Mitochondrial Medicine in the Division of Neurology of the Department of Pediatrics at McGovern Medical School at UTHealth.

"It could potentially be a game-changer for epilepsy in general as it is the first trial ever aimed at preventing seizures from developing in a vulnerable population," Koenig said.

Tuberous sclerosis complex (TSC) is a genetic disorder that causes tumors to form in many different organs, including the brain. It can affect neurologic functions, leading to seizures, developmental delay, intellectual disability and autism. According to published research by Harvard, about 80 percent of children with TSC develop epilepsy within the first three years of life.

Funded by the National Institutes of Health, the clinical trial will recruit a total of 80 infants with TSC. At the first sign of abnormal brain activity revealed by electroencephalogram, half the infants will receive vigabatrin, a medication used to control infantile spasms, while the other half receive placebo. At the onset of clinical seizures, all of the children will transition to the standard of care for infants with TSC and seizures. The investigators will follow the children for three years to monitor developmental progress and the onset and severity of seizures.

The study, called Preventing Epilepsy Using Vigabatrin in Infants with Tuberous Sclerosis Complex, will target the window of time between abnormal brain activity and the onset of seizures, which is usually two to three months. The researchers are hoping to determine whether early intervention will have a positive effect on developmental outcomes and delay or prevent the onset of seizures.

Provided by University of Texas Health Science Center at Houston