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NIH grant awarded to BCM to study sudden death in epilepsy

HOUSTON – (Oct. 24, 2010) – A \$1.4 million grant has been awarded to Baylor College of Medicine by the National Institute of Neurological Disorders and Stroke to organize a national research consortium to study sudden unexpected death in epilepsy – the leading cause of mortality in both children and adults with seizure disorders.

Dr. Jeffrey Noebels, professor of neurology at BCM and director of the Blue Bird Circle Developmental Neurogenetics Laboratory, is principal investigator and will lead the coordination of genetic, translational and clinical research projects. Experts at BCM and the Universities of California, Michigan, Iowa, and Northwestern University in Chicago will take part in the study.

“The mission of the consortium is to identify warning signs that will enable physicians to detect and ultimately prevent those at risk for sudden unexpected death in epilepsy, or SUDEP,” said Noebels. “Roughly 50,000 Americans are lost each year from seizure related causes, and nearly 1 in 100 with severe epilepsy die suddenly without any warning or known reason.”

Noebels led the research team that discovered the first gene for SUDEP in 2009. Mutations in the gene, a potassium ion channel, disrupt normal rhythms in both the heart and the brain, leading to a combined syndrome of epileptic seizures, cardiac arrhythmias and sudden unexplained death. The consortium hopes to uncover other SUDEP genes that cause seizures and also affect the heart or breathing.

An international DNA repository for detailed genetic analysis of human SUDEP cases will be established by Dr. Alica Goldman, assistant professor of neurology at BCM and a specialist in genetic epilepsies. Genetic defects identified will help researchers find possible therapeutics, including some that may already be available to counteract the disorder.

“The tragedy of an unexpected death is a cruel shock awaiting the families of too many who suffer with seizure disorders,” said Noebels. “It doesn’t have to happen.”

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