Injury Models

Operation Brain Trauma Therapy

Operation Brain Trauma Therapy was a unique multi-center, pre-clinical, drug screening and brain injury biomarker development consortium for the ultimate translation of the best potential drugs to clinical trials in TBI. Operation Brain Trauma Therapy included investigators at the Safar Center for Resuscitation Research (University of Pittsburgh School of Medicine), the Miami Project to Cure Paralysis, (University of Miami School of Medicine), the Neuroprotection program at WRAIR, Virginia Commonwealth University and Banyan Biomarkers (University of Florida). Three rodent models (controlled cortical impact, parasagittal fluid percussion injury, and penetrating ballistic-like brain injury) were used in Pittsburgh, Miami, and WRAIR, respectively, for primary drug screening with the most promising candidate tested in a micropig model at Virginia Commonwealth University. Additional secondary screening of the most promising drugs was also carried out in more complex rodent models with polytrauma, hemorrhage, or advanced monitoring, as deemed appropriate. Operation Brain Trauma Therapy represented a unique resource for pre-clinical screening of new therapies for TBI and evaluation of serum brain injury biomarkers. The consortium was highly productive and valued having tested nine therapies across three rodent models in >1,200 rats with >5,000 biomarker assessments. They have identified levetiracetam as a promising therapy and moved it to testing in micropigs.