2023 Annual Research Day Poster Sessions – April 19th, 2023

Session/Poster#	Presenter
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Differential gene expression changes in response to PTSD: a multi-cohort approach to understanding the biological impact of PTSD and exploration of its relationship to HIV

It is widely accepted that post-traumatic stress disorder (PTSD) causes many long-term health impacts on individuals. However, the underlying molecular and physiological mechanisms that drive these dysfunctions are not understood. Our objective is to identify genes, pathways, and networks that may serve as biomarkers of PTSD that may provide targets for intervention.

Gene expression profiling of blood samples from individuals with and without PTSD was performed. Gene expression profiling was also performed on individuals with human immunodeficiency virus (HIV) who were or were not taking antiretroviral medications.

These genes were also compared to patients with human immunodeficiency virus (HIV). These results were then compared to the results of the PTSD profiling. PTSD studies (n=734) and HIV (n=155) cohorts were analyzed. Similar genes effected between the PTSD group and HIV non-retroviral medication group include C1QB, GNL3, RPS29, and ENHO. Pathway analysis of perturbed genes in both HIV and PTSD cohorts were related to changes in gene expression related to with genetic repair, inflammation, immune regulation, and cellular function. The results highlight the complex clinical comorbidity seen in individuals with PTSD. Future investigations are required to delineate the efficacy of targeting these pathways for intervention.