Ambeka Rajvanshi, Class 2024

Campus: Willowbrook Hospital, Houston Methodist, Houston TX
Research Area: Lipid-Droplet-Accumulating Microglia in Alzheimer's and Aging
Mentor: Ashok Shetty, PhD

Ambeka Rajvanshi, a medical student at Texas A&M School of Medicine, is writing a review on the role of lipid-droplet-accumulating-microglia in aged and neurodegenerative states under the guidance of Ashok Shetty, PhD, Professor in the Department of Molecular and Cellular Medicine, and Associate Director for the Institute for Regenerative Medicine. Alzheimer's Disease (AD) is the most common cause of dementia and affects roughly 40 million people worldwide. Approximately 90% of AD cases result from mutations in Apolipoprotein (ApoE) E3 and E4, genes associated with proteins involved in lipid transport. Recent models have suggested that an increase in lipid-droplet-accumulating microglia (LDAM) are associated with aged and neuroinflammatory states such as in AD. While current AD therapeutics provide limited relief from clinical symptomology and are not curative, LDAM research has the potential to refine and improve current AD therapies. Their review focuses on current therapeutic strategies for neurodegenerative diseases such as AD, the role that microglia and LDAM play in aging and AD, and future applications and perspectives of this research.