



## February 2024 Research Roundtable

### Summary:

Featuring guest speakers Dr. Mitra and Jeff Milton

Chelsea's Hope hosted their quarterly Virtual Research Roundtable on February 24<sup>th</sup>, 2024, with more than 60 attendees representing the research, clinical, and patient communities. Our guest speakers were Dr. Sharmistha Mitra and Jeff Milton from La Jolla Labs.

Dr. Sharmistha Mitra is part of our research team at the University of Texas Southwestern Medical Center. She specializes in research on E3 ubiquitin ligases and their role in glycogen metabolism. Dr. Mitra presented data analyzing amylopectinosis in Lafora Disease and Adult Polyglucosan Body Disease. Analysis of the skeletal muscle in various mouse models revealed that the polyglucosan bodies have genotype and myofiber-type related structures. The data also show the accumulation of macrophages in cells with amylopectinosis, resulting in cell necrosis. In brain tissue, polyglucosan bodies appeared as small dots in the astrocytes, while larger accumulations could be seen in the neurons. Future studies will look at the metabolic shift in these cells during amylopectinosis and the potential dysfunction of the lactate shuttle.

Our second guest speaker was Jeff Milton, founder and CEO of La Jolla Labs, a company developing technology for RNA-based therapeutics. He discussed some of the challenges with making therapeutics for rare diseases profitable and proposed a pathway for an "N of 1" boutique therapeutic design. Using an RNA splicing mechanism for nonsense-mediated decay, this therapy could result in a 50% knockdown of the target gene. With sufficient pre-clinical data, the therapy could be tested in patient-derived cell lines this year as a proxy safety study to accelerate the path toward clinical trials. Jeff Milton and La Jolla Labs will keep the Lafora community updated on any progress they make toward obtaining a therapeutic for clinical trials.

Our next Research Roundtable will be Thursday, April 11<sup>th</sup>, from 10:30 am - 12:00 pm EST via Zoom.

Thank you for reading our Roundtable Summary, and please do not hesitate to contact our Science Director, Dr. Kit Donohue, if you have any questions or suggestions: [katherine@chelseashope.org](mailto:katherine@chelseashope.org).