Mining Big Data in NeuroGenetics to Understand Muscular Dystrophy

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ABSTRACT

The recent advances in genome sequencing and analyses of the billions of base pairs in genomic data have been a boon for moving forward our understanding of human disease. In this talk I will describe how genome sequencing has dramatically improved our understanding of the most common adult form of muscular dystrophy, which is myotonic dystrophy. Two different genetic mutations cause thousands of changes in the cells and tissues of myotonic dystrophy patients. Genome sequencing has allowed us to precisely determine the degree of changes across patients, correlate these changes to disease symptoms and allow us to determine quickly in cell and animal models the effectiveness of therapeutic strategies for myotonic dystrophy.

Author Keywords

Genome sequencing; genomic data; muscular dystrophy; myotonic dystrophy; data mining.

BIOGRAPHY

Andy Berglund is a Preeminence Professor of Biochemistry and Molecular Biology in the College of Medicine at the University of Florida. He is the Director of Informatics and Sequencing in the Center for NeuroGenetics. Before joining the faculty at Florida, Andy was a Professor of Chemistry and Biochemistry at the University of Oregon, Associate Dean of Graduate Education and Co-Director of the Bioinformatics Graduate Internship Program. Andy holds a BA in Biochemistry from the University of Colorado and a PhD in Biochemistry from Brandeis University.

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