Journey towards personalized medicines and rare genetic disorders management

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Abstract-

This omics approach is particularly helpful since it identifies biomarkers of disease progression and treatment progress by collective characterization and quantification of pools of biological molecules within and among the various types of cells to better understand and categorize the Mendelian and non- Mendelian forms of rare diseases. Multiomics also described as integrative omics is an analysis approach that combines data from multiple 'omics' approaches including genomics, transcriptomics, proteomics, metabolomics, epigenomics, metagenomics and metatranscriptomics to answer the complex biological processes involved in rare genetic disorders. A range of omics software's used for multiomics data exploration and integration in rare disease analysis. Recent advances in the field of genetics and translational research has opened new treatment avenues for the patients. The innovation in the next generation sequencing and RNA sequencing has improved the ability from diagnostics to detection of molecular alterations like gene mutations in specific disease type. The thorough understanding of rare genetic disorders and its treatment at molecular level led to the concept of personalized medicines approach, which is one of the most significant advancements in modern research which enable researchers to better comprehend the flow of knowledge which underpins genetic disease.

Keywords:

Genetic diseases, multiomics, personalized drugs, drug resistance, next generation sequencing