Genetics of neurological diseases

Genetic variants contribute to the aetiology of diseases of both the central and peripheral nervous system. This issue aims to update readers on clinical implications of recent neurogenetic discoveries, the genetic testing technologies involved and possible new treatment approaches. The genetic contribution ranges from variants in single genes which completely explain disease onset, such as in Huntington disease, to genetic variants which increase the risk of neurological disease by interacting with environmental factors, such as APOE in Alzheimer’s disease. This issue seeks submissions on 3 groups of neurogenetic disorders. Firstly, it will review recent advances in identifying single gene causes of neurological disorders in both children and adults, with descriptions of the associated phenotypes. We also seek papers, which discuss genetic risk factors for neurological disease, such as those identified through Genome Wide Association Studies (GWAS) for Alzheimer’s disease and Parkinson’s disease, or genetic factors which influence symptomatology or disease course. Papers which describe neurological manifestations of rare genetic/metabolic disorders will also be of great interest; for example descriptions of movement disorders in lysosomal storage disorders. The technology which underpins advances in our understanding of neurogenetic disease are also sought. We seek papers which will help clinicians understand the applications and limitations of exome and genome sequencing. These genetic discoveries have opened up new avenues suggesting approaches to treatment, such as gene therapy and enzyme replacement therapy. Papers describing precision medicine approaches, based upon genotype, are especially welcome. Original research reports, review articles, communications, and perspectives are welcome in all areas pertinent to the topic.

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