



Category: Bioinformatics

Bioinformatics Database Tools in Analysis of Genetics of Neurodevelopmental Disorders

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Abstract

Bioinformatics tools are recently used in various sectors of biology. Many questions regarding Neurodevelopmental disorder which arises as a major health issue recently can be solved by using various bioinformatics databases. Schizophrenia is such a mental disorder which is now arises as a major threat in young age people because it is mostly seen in case of people during their late adolescence or early adulthood period. Databases like DISGENET, GWAS, PHARMGKB, and DRUGBANK have huge repository of genes associated with schizophrenia. We found a lot of genes are being associated with schizophrenia, but approximately 200 genes are found to be present in any of these databases. After further screening out process 20 genes are found to be highly associated with each other and are also a common genes in many other diseases also. It is also found that they all serves as a common targeting gene in many antipsychotic drugs. After analysis of various biological properties, molecular function it is found that these 20 genes are mostly involved in biological regulation process and are having receptor activity. They are belonging mainly to receptor protein class. Among these 20 genes CYP2C9, CYP3A4, DRD2, HTR1A, HTR2A are shown to be a main targeting genes of most of the antipsychotic drugs and are associated with more than 40% diseases. The basic findings of the present study enumerated that a suitable combined drug can be design by targeting these genes which can be used for the better treatment of schizophrenia.

References

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