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Short Communication

Short Note on Pharmacogenomics and Psychiatry

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DESCRIPTION

Pharmacogenomics is a branch of science that investigates how a person's genes influence how they react to drugs. Its long-term goal is to assist clinicians in selecting the medications and dosages that are optimal for each individual. Precision medicine is a branch of medicine that tries to treat each patient as an individual. This discipline combines pharmacology and genomics to create effective, safe pharmaceuticals that can be provided based on an individual's genetic profile. Genetic variations in medication metabolism cause changes in the function of liver enzymes, resulting in differences in blood levels and types of metabolites between clients. A metabolizer phenotype is linked to a specific set of genetic variations. These phenotypes describe how a person is most likely to react to drugs processed by the gene that contains the variation [1].

Drug response is complex and is influenced by a variety of factors. Different patients may react to the same treatment differently, and the same individual may react to the drug differently at different times. The advancement in the field of medicine, on the other hand, lay in determining the most appropriate treatment intervention for a certain patient. A pharmacogenomics strategy aimed at customized treatment is evolving methods for finding such interventions. As a result, progress in the use of antidepressant and antipsychotic medication must primarily focus on more effective and individualized treatment with already accessible pharmaceuticals. Individualization includes highlighting inter individual changes in genes that are crucial to treatment, a field known as neuropsychopharmacogenomics. Medicines can be used to treat a variety of psychiatric diseases or to lower the severity of symptoms [2]. The many drugs used to treat various psychiatric diseases can have a wide range of effects on patients. The way a drug reacts is influenced by personal health risks. Furthermore, genetic factors, such as an individual's unique genetic makeup, can influence drug response by causing variable activity of the systems responsible for the drug's absorption, distribution, metabolism, and excretion, as well as pharmacodynamics parameters, such as the drug's mechanisms of action. The study of medication response in relation to individual genetic differences is known as pharmacogenomics. The serum/plasma concentration and clinical response of medications used to treat psychiatric diseases have a minor association [3]. Clinical course and results are fewer objectives in psychiatry practice, which adds to the complexity. Because these medications are typically administered for longer periods of time, safety considerations become more significant. As a result, pharmacogenomics has become more important in psychiatry for clinical decision-making. Every medicine that is processed in the body is influenced to some extent by the patient's genetic makeup. However, not every genetic change is clinically significant. There are now well-known genetic characteristics/abnormalities that have a clinically significant impact on a drug's metabolism [4].

CONCLUSION

Pharmacogenomics markers are genetic traits that have been identified. To make the best use of genetic information in clinical decision-making, we need to create our own pharmacogenomics data. It's a time-consuming project, but once completed, the genetic data will be beneficial in a variety of fields. The science of pharmacogenomics is expanding, and clinical studies are testing new approaches. Pharmacogenomics will be utilised in the future to develop personalized medications to treat a variety of diseases, including cardiovascular disease, Alzheimer's disease, cancer, and asthma.

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