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Commentary

The Role of Electrophoretic Technology in Therapeutic drug Monitoring

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Therapeutic drug monitoring (TDM) is a type of blood test that determines the level of a particular drug in the system. It is done to ensure that the dose of the medicine you are taking is safe and effective. Most drugs can be administered accurately without additional testing. However, with some medications, it can be difficult to determine the dose of medication that is sufficient to treat the condition without causing dangerous side effects. TDM helps doctors determine if they are taking the correct dose of medicine. Medical level blood test, therapeutic level is part of another name for this test.

TDM begins with the initial prescribing of the drug, defines an initial dosing regimen suitable for the clinical condition, and includes patient variables such as age, weight, organ function, and concomitant medications. Drug dosage, dosing history, patient response, and sample duration associated with planned medical goals are all factors to consider when interpreting concentration measurements. The purpose of TDM is to optimize patient clinical outcomes in a variety of clinical scenarios by using awkward drugs at optimal concentrations.

Therapeutic Drug Monitoring (TDM) is a clinical practice that measures specific drugs at specific intervals to maintain a constant concentration in the patient's circulation and allows optimization of individual dosing regimens. The majority of drugs do not require TDM, drugs with a limited therapeutic index, drugs with highly variable pharmacokinetics, drugs at target concentrations that are difficult to monitor, and drugs with documented therapeutic effects and side effects. Used only for monitoring. TDM is based on the idea that there is a clear relationship between plasma or blood dose and drug concentration, and between concentration and therapeutic effect.

For medicines that are regularly evaluated in the field, automated analytical methods such as enzyme-amplified immunoassay technology and fluorescently polarized immunoassays are usually available in medical laboratories. Currently, most additional drugs are gradually replacing high performance liquid chromatography in blood or plasma using various techniques such as liquid chromatography-mass spectrometry or gas chromatography-mass spectrometry. Can be measured. TDM, on the other hand, does more than just provide accurate and accurate concentration measurements. It also includes appropriate medical interpretations based on sound scientific understanding.

Many medications that require treatment monitoring are taken for life. Every year when they experience life events such as pregnancy, transient illnesses, infections, mental and physical distress, accidents, and surgery that can affect a person's level of treatment as they grow older. It must be maintained at a certain level. People may develop other chronic illnesses over time that require lifelong medication and may interfere with the treatment of surveillance drugs. Cardiovascular disease, kidney disease, thyroid disease, liver disease, and HIV are examples of these disorders.

Therapeutic pharmacovigilance tracks and adapts to these changes. To detect and meet the effects of drug interactions that may result in higher or lower drug concentrations than expected at certain doses if the patient is not taking the drug as prescribed (patient non-compliance) Helps to personalize the dose to the specific needs to meet the needs of the patient. In addition to tests such as BUN, creatinine, and liver function tests, drug monitoring helps detect diminished ability and dysfunction of the body to metabolize and remove the drug. Tests can also show how a drug interacts with other needed medications.

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