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Molecular Markers In Diagnosis

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Short Communication

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INTRODUCTION

Biological markers are indicators of a person's current biological condition. "An attribute that can be measured and analysed objectively to reveal natural biological processes, pathogenic processes, or pharmacological responses to a therapeutic intervention.," according to the concept of a biomarker.

Biomarker discovery is a medical term that refers to the process of discovering biomarkers. Current biomarkers, such as those used to diagnose myocardial infarction (e.g., cardiac troponins), were discovered during focused physiologic studies. Similarly, studies of isolated molecules in cellular systems have largely defined basic disease science [1].

Today, a wide range of biomarkers are available and are being used in a number of research and diagnostic fields. Laterza et al. used a global survey to explain their identification of possible new markers in this issue of Clinical Chemistry. The long path to verifying certain markers in clinically valid human cohorts starts now. From physiological processes to metabolic systems, each biological event/system has its own set of biological markers. Few of them are relatively simple to classify and measure, allowing them to play a role in routine medical investigations. Several common biological indicators, such as pulse rate, blood pressure, and cholesterol, glucose, and triglyceride levels, are now used in general medical health tests. Body mass index (BMI), waist-to-hip ratio (WHR), and body weight are the most widely used physical metrics for measuring obesity and metabolic disorders [2].

Any parameter used as a biological marker should have certain characteristics that make it the best choice for detecting a specific pathophysiological disorder. The following are a few main characteristics that should be present in an ideal marker:

It's easy to use and keep track of.

Reaching a large number of people at a low rate, regardless of economic conditions

Adjustable as a result of treatment

Regardless of gender or race, consistent

Biomarkers are a form of biomarker that is used to predict serious illnesses such as disorder and diabetes. Each biological marker indicates whether or not a disease is present, and they are often combined to provide a detailed image of a person's health.

The concepts of biomarkers in disease have been put to the test in cancer screening, identification, diagnosis, treatment choices, and monitoring. Orthodox anti-cancer drugs are unsuccessful in killing cancer cells because they also destroy healthy cells. Today, however, more complex and personalised therapies have been developed using biomarker concepts. These biomarker-guided therapies/drugs selectively kill cancer cells while causing no damage to healthy cells. These procedures reduce the risk of drug-induced toxicity even further. Since genetic aberrations are so prevalent in cancer growth, genetic markers are being used more effectively in cancer research. As a result, some successful DNA or RNA markers may be useful in cancer detection and treatment [3].

Their efforts thus far point to tantalising novel essential disease markers, signalling the start of a long journey toward the discovery of a clinical biomarker and the difficult transition from the laboratory setting to routine clinical practise.

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Any parameter used as a biological marker should have certain characteristics that make it the best choice for detecting a specific pathophysiological disorder. The features mentioned below should be present in an ideal marker:

- Easy to handle and Safe in use
- Cost efficient to cover major population of across the economic conditions

- Adjustable with treatment
- Consistent against gender and ethnicity

Biomarkers are one-of-a-kind biomarkers that are used to predict severe illnesses such as cardiovascular disease and diabetes. Each biological marker can be used to determine whether or not a disease is present, and they can be combined to provide a detailed picture of a person's health.

The concepts of biomarkers in disease have been put to the test in cancer screening, identification, diagnosis, treatment choices, and monitoring. Orthodox anti-cancer drugs killed cancer cells as well as healthy cells. Today, however, more complex and personalised therapies have been developed using biomarker concepts. These biomarker-guided therapies/drugs selectively kill cancer cells while causing no damage to healthy cells.. These procedures reduce the risk of drug-induced toxicity even further. Since genetic aberrations are so prevalent in cancer growth, genetic markers are being used more effectively in cancer research. As a result, some successful DNA or RNA markers may be useful in cancer detection and treatment.

Their efforts thus far point to tantalising novel markers of essential diseases, signalling the start of a long journey toward the discovery of a clinical biomarker and the complicated transition from the laboratory to routine clinical practise.

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