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Role of Cellular Bio-Markers in Pharmacotherapy for Cancer Detection and Prognosis

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The two elements of key importance in the treatment of cancer includes early correct diagnosis and effective interventional therapy .Predicting the response to pharmacological intervention is an optimal goal for healthcare professionals especially in cancer prognosis. Metastasis of cancer indicates a morbid state resistant to standard pharmacotherapeutic interventions. A terminology 'Companion Diagnostics 'improves predictability of outcomes and holds the promise as a strategic tool for the oncologist to decide which drug would be best suited to treat a particular cancer.

Immunohistochemistry (IHC) has emerged as a reliable and sensitive investigative tool that provides supplemental information to the routine morphological assessment of tissues. The use of IHC to study cellular markers that define specific phenotypes has provided important diagnostic, prognostic and predictive information relative to the disease status and normal cellular biology. Application of antibodies to the molecular study of tissue pathology has been refined and improvised, particularly for use in fixed tissues .In contrast to solution based immunoassays that detect relatively abundant native proteins, the preservation of antigen in fixed tissues is variable and unpredictable . Evolution of newer techniques has resolved these issues and has helped detect proteins in tissues with great sensitivity .It also provides a semi-quantitative assessment, with the ultimate goal of integrating tissue based analysis with proteomic information. Targeted therapies have created a need for a more profound quantitative biomarker information. These newly launched IHC tests are termed as 'prognostic markers', 'predictive markers' and "advanced personalized diagnostics".

Biography:

Dr. Vanitha Samuel is a Medical graduate from Stanley Medical College, (1986-1991) Chennai, Tamil Nadu, India .She has completed her Master degree in Pharmacology (1999) at Madras Medical College, Chennai and her PhD in Pharmacology at Rajah Muthaiah Medical College, Annamalai University, Chidambaram, where she is currently working as Professor in the Department of Pharmacology . She is a member of the Pharmacovigilance Committee in RMMC and her speciality and field of research includes Toxicology related drug effects and study of drugs that ameliorate them. Her professional interests involves the pre-clinical evaluation of various flavonoid compounds in some selective cancers.

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