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Making a difference in the clinical management of Lung Cancer

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Lung cancer is the most common cause of death from cancer worldwide, estimated to be responsible for nearly one in five (1.59 million deaths, 19.4% of the total). In India, approximately 63,000 new cases of lung cancer are reported every year. One of the major contributors to lung cancer is tobacco use and hence termed as smoker's disease. However, a significant number of patients with lung cancer have no history of smoking. Major gender, clinico-pathological, and molecular differences in lung cancers arising in non-smokers strongly suggest a disease distinct from the more common tobacco-associated forms of lung cancer.

Lung cancer is comprised of two main histologic subtypes: non-small cell lung cancer (NSCLC) and small cell lung cancer (SCLC). Subsets of NSCLC may be characterized by recurrent driver mutations in multiple oncogenes as per literature. Specialized molecular and genetic testing for these kinds of cancer would prove to be very useful in detection and clinical management of lung cancer.

In NSCLC cases examples where the regular chemotherapy treatment regimen did not yield positive results and the cancer was aggressive; and the possibility of targeted therapy options using common targeted drugs is ruled out as the corresponding tests turned out to be negative. The clinician has an option to perform specific genetic testing for ALK that detects defects in ALK gene, the translocation in which is one of the major oncogenic driving molecular event in oncogenesis. A positive result opens up the possibilities for the use of approved targeted therapy options such as Crizotinib on the patient.

ALK test is an FDA approved antibody and its use in IHC testing is part of the companion diagnostic workup for NSCLC as per the clinical guidelines. The results of the ALK testing, if positive, confirms the presence of ALK gene related defect in this patient and the patient can be prescribed Crizotinib. Real life examples suggest remarkable difference in the clinical management of such patient's disease. It is estimated that ALK positivity is close to 5% in Indian NSCLC patients.

Genomics diagnostics companies in India are encouraging the use of companion diagnostics to assist the oncologist in making a treatment decision. Such companies offer advanced technologies and excellent service to deliver a positive experience to the prescribing doctor as well as the patients. And the trend is here to stay...



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Dr. Ramprasad is the Chief Operating Officer of MedGenome. He holds a Masters Degree and PhD from BITS, PILANI. He is experienced in handling Affymetrix and Illumina technologies Show more..

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