

Anticancer therapy for lung tumour based on gene mutations

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The field of lung cancer genetics has advanced significantly in recent years. Most of the mutations involved in lung cancer progression arise from mutation in genes including members of the EGFR family possessing the tyrosine kinase domain. This plays an important role in the downstream signalling pathway leading to cancer progression. Current treatment involves targeting tyrosine kinase receptor gene that can lead to suppression of cell growth and improve survival rate in patients. However, not all members of EGFR family are activated simultaneously in a specific case, which indicates that different gene mutation leads to a difference in gene activation and also the targeted drug therapy is specific for the specific mutation. Hence, specific drug therapy is essential for efficient response. However, increased drug treatment has also led to an increase in resistance mechanisms, which involve activation of different RTKs ultimately leading to cancer progression and no response to targeted drug therapy. Therefore, it is essential to keep a check on molecular changes by screening gene mutation at every stage. This approach may lead to overcoming major challenges in the treatment of lung cancer in spite of various molecular resistance mechanism modifications in the future.

Keywords: EGFR mutation, Tyrosine kinase, Drug therapy, Screening, Gene mutation

Citation:

Roshani Singh. Anticancer therapy for lung tumour based on gene mutations. The Torch. 2021. 2(19). Available from: <https://www.styvalley.com/pub/magazines/torch/read/anticancer-therapy-for-lung-tumour-based-on-gene-mutations>.