

MOLECULAR SIGNATURE AND SUB CLASSIFICATION OF LUNG CANCERS USING SMALL BIOPSY SAMPLES – MOVING FROM TARGETED THERAPY TO IMMUNOTHERAPY

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The majority of lung cancer patients present with locally advanced disease or with distant metastasis at the time of diagnosis. Fine needle biopsy (FNA) is an important approach for diagnosis and staging of lung cancer as well as for molecular characterization of the tumor. The new 2015 edition of the WHO classification and recommendations of IASLC (International Association of Study of Lung Cancer) emphasize the importance of accurate subclassification of lung cancers for targeted therapy. Lung cancer is a heterogeneous group of neoplasms and accurate diagnosis on small biopsies can be challenging. Recent systematic reviews and meta-analyses have shown that

interobserver disagreement rates on the subclassification of non-small cell lung cancer (NSCLC) are approximately 10-20% in resected tumor specimens and 20-30% in small biopsy specimen without immunohistochemical (IHC) stains. The morphological heterogeneity of the lung cancer is also correlated with certain molecular alterations. Therefore, it is necessary to introduce newly updated guidelines of WHO and IASLC into our daily practice to improve the accuracy of subclassification of NSCLC for molecular profile and targeted therapy.

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