Comparison on-site between liquid biopsy pillar biosciences ngs panels and tissue biopsy oncomine precision assay (thermo fisher scientific) in advanced non-small cell lung cancer at diagnosis. a preliminary retrospective study from a single center (ihu r

Abstract Submitter: Caroline Lacoux, France*

Co-Authors: Véronique Hofman, Virginie Lespinet-Fabre, Olivier Bordone, Guylène Rignol, Virginie Tanga, Maryline Allegra, Marius Ilié, Jacques Boutros, Charles Marquette, Jonathan Benzaquen, Paul Hofman

*IHU RespirERA, Nice

Abstract

Background: Liquid biopsy testing (LBx) is using more and more frequently to detect clinically relevant mutations at diagnosis in advanced non-small cell lung cancer (aNSCLC) patients, though tissue biopsy testing (TBx) remains the gold standard. A single center retrospective study was setup to evaluate the performance on-site of the new ampli-seq based Pillar Biosciences Core and Fusion LBx panels in comparison with the Oncomine Precision Assay (OPA) (Thermo Fisher Scientific) on matched TB.

Methods: LB-TB matched samples was collected at diagnosis from 49 stage IIIB/IV lung adenocarcinoma. LB panels cover 104 genes (SNV, CNV) and 18 driver genes (RNA fusion), and require only one-day manual libraries preparation which are compatible with Illumina-based NGS technology (NextSeq2000). The results were compared to the OPA (50 genes) results on matched TB. The data were reported based on the ESMO Scale for Clinical Actionability of molecular Targets (ESCAT) I/II.

Results: This study showed a 100% concordance between LB and TB for relevant mutations on KRAS, ERBB2 and BRAF genes and 87.5% concordance for the EGFR mutations.

Conclusions: NGS results from the LBx Pillar panels show a very high concordance with NGS on TB for clinically relevant SNVs detection and maybe use as an alternative of NGS on TB. Further optimization and additional cases would be needed to improve and assess fusion detection using the Fusion LBx ampli seq-based NGS.

Do you have any conflicts of interest?

No, I do not have a conflict of interest.