CONFIDENTIAL MEDICAL REPORT

ACT Genomics - Precision Medicine Center

Patient Name: Chang, Wei-Ming

Patient ID: ACT-2024-089

Date of Birth: 1965-04-12

Gender: Male

Date of Report: 2024-01-05

Physician: Dr. Lin, Oncology Dept.

--- CLINICAL HISTORY ---

The patient is a 59-year-old male with a history of smoking (20 pack-years). He presented with persistent cough and shortness of breath for 3 months. CT scan revealed a 3.5 cm mass in the right upper lobe of the lung with suspected pleural effusion. A core needle biopsy was performed, confirming Adenocarcinoma of the lung.

--- PATHOLOGY DIAGNOSIS ---

Specimen Site: Right Upper Lobe, Lung

Histology: Invasive Adenocarcinoma, acinar predominant pattern.

Staging: cT2aN2M0, Stage IIIA.

--- MOLECULAR GENETIC PROFILING (NGS) ---

Methodology: Comprehensive Genomic Profiling (CGP) was performed on FFPE tissue.

DETECTED GENOMIC ALTERATIONS:

1. EGFR Exon 19 Deletion (p.E746_A750del)

- Variant Allele Frequency (VAF): 28%

- Clinical Significance: Pathogenic. Sensitizing mutation for EGFR Tyrosine Kinase Inhibitors (TKIs).

2. TP53 R273C

- Variant Allele Frequency (VAF): 15%

- Clinical Significance: Pathogenic. Associated with poor prognosis but no currently approved targeted therapy.

3. PD-L1 Expression (TPS): 45%

- Note: Moderate expression.

--- TREATMENT RECOMMENDATIONS ---

Based on the NCCN Guidelines for Non-Small Cell Lung Cancer (NSCLC):

1. First-line Therapy:

The presence of EGFR Exon 19 Deletion indicates high sensitivity to EGFR-TKIs.

Recommended: Osimertinib (Tagrisso) 80mg daily.

Alternative: Gefitinib or Erlotinib (if Osimertinib is unavailable).

2. Immunotherapy:

Although PD-L1 is positive (45%), targeted therapy for EGFR mutations generally takes precedence over immunotherapy in the first-line setting due to better response rates.

--- END OF REPORT ---