**BACKGROUND**

Recent technological advances have led to the development of blood-based diagnostics or “liquid biopsies” in NSCLC. This approach allows for the prognosis of outcomes, identification of genetic alterations to guide targeted therapy, and real-time monitoring of treatment response. The limitations of tumor biopsies have recently been supported by a study that demonstrated up to 30% of patients at a community-based academic center did not undergo guideline recommended molecular testing, despite an institutional reflex testing policy for tissue [1].

Synchronous double testing of a liquid biopsy and tissue biopsy is often performed as a multidisciplinary strategy shifting molecular testing from tissue to blood. Theoretically, this approach has the potential to reduce the time to result delivery of actionable mutations for patients [2].

**METHODS**

In this study, we compared standard molecular testing strategies with the Biosedula Lung Reflex™ in a blood-based testing pathway that integrates a multipathologic® mutation testing strategy. In the present study, we evaluated the time to result delivery of actionable mutations in a consecutive series of patients with lung cancer, collected from a large cancer program (Leo Jenkins Cancer Center), we also evaluated the availability of results at time of next oncology visit.

**RESULTS: EARLY BLOOD BASED REFLEX TESTING STRATEGY**

In standard practice, remaining tissue (if sufficient) from the diagnostic tissue block may be used for molecular testing. Re-biopsy may be necessary when insufficient tissue remains. As shown in Table 3, tissue molecular pathology, whether prior to treatment start or to evaluate response and acquired resistance to treatments, has slow turn around times. This can result in either delays in treatment start or treatment without biomarker information which could lead to sub-optimal treatment for patients with driver mutations.

**REFERENCES**


