Lung cancer is the leading cause of cancer-related death in the United States, with an estimated 158,080 deaths in 2016.1

Approximately 80% of lung cancer cases are non-small cell lung cancer (NSCLC).2 Most patients present with disease that is inoperable, stage IV or metastatic.3

Two advanced NSCLC involves balancing the efficacy and tolerability of treatments. This balance considers both the benefits of treatment on disease progression.

The current report describes findings from a prospective medical record registry of patients newly diagnosed with advanced NSCLC, who received any of common policies during the study period. The focus of this report is progression-free survival (PFS), overall survival (OS), toxicity, and QOL-related quality of life (HRQOL) through one year of follow-up.

### OBJECTIVES

1. To assess differences in effectiveness outcomes (PFS and OS) by treatment regimens in patients receiving first line treatment of advanced NSCLC in real world community oncology settings.

2. To examine demographic and clinical characteristics by first line treatment regimens.

3. To examine the occurrence of a selected adverse events by first line treatment regimens.

4. To assess the impact of baseline characteristics on HRQOL among patients receiving first line treatment of advanced NSCLC.

### METHODS

The study was a prospective observational study that examined effectiveness outcomes, toxicities, and HRQOL measured by patient reported outcomes (PROs) in patients newly diagnosed with advanced NSCLC, treated with one of three commonly used regimens, through one year of follow-up. Key design elements included:

- Study Design: A multi-center study that combined prospective and retrospective elements.
- Eligible patients: prospectively identified and consented. Symptomatic stage III or IV non-small cell lung cancer (NSCLC) was included. Patients were eligible if they had not received prior chemotherapy or cisplatin-based regimens for more than 5 months.
- Follow-up Period: baseline clinical data were collected at time point #1, and follow-up clinical data were collected at time point #2, with a maximum follow-up of 12 months from start of first line therapy.
- Analysis: Treatment data were compared across three treatment groups for demographic and clinical covariates, shows significant variability in OS and PFS.
- Statistical Methods: Comparison of PFS and OS across treatment groups.

### RESULTS

1. Eligible patients prospectively identified and consented. Symptomatic stage III or IV non-small cell lung cancer (NSCLC) was included. Patients were eligible if they had not received prior chemotherapy or cisplatin-based regimens for more than 5 months.

2. Follow-up Period: baseline clinical data were collected at time point #1, and follow-up clinical data were collected at time point #2, with a maximum follow-up of 12 months from start of first line therapy.

3. Analysis: Treatment data were compared across three treatment groups for demographic and clinical covariates, shows significant variability in OS and PFS.

4. Statistical Methods: Comparison of PFS and OS across treatment groups.

### CONCLUSIONS

1. Ninety-three patients (63.3%) had at least one adverse event defined by the National Cancer Institute's Common Terminology Criteria for Adverse Events. The most common adverse events were fatigue, anemia, and nausea/vomiting.

2. Smoking status was significantly associated with shorter OS (HR 2.463, p = 0.0011). Other covariates were associated with longer PFS than Regimen C (p = 0.1070). Improved performance status was associated with shorter PFS (HR = 2.463, p = 0.0011). Other covariates were non-significant.

3. Baseline OS from start of first line was 9.67 months, with 102 events observed.

4. University Hospital ranked third in the nation for quality outcomes.

### LIMITATIONS

1. Small sample size (N= 347).

2. Observational studies, which necessarily involves noncomparative group and may differ at baseline on unmeasured variables.

3. Patients were treated in community oncology settings. Findings may not generalize to patients treated in other settings.

### REFERENCES