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Patient Characteristics in a Cohort of Advanced Non-Small Cell Lung Cancer (NSCLC) Patients Treated in the Community Setting

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Background: An array of palliative 1st line treatment options for patients (pts) with advanced (metastatic) NSCLC improving survival and reducing disease related symptoms are available. Limited data exists on patient characteristics that drive treatment options. Review of electronic medical records offers an efficient new approach to understanding clinic aspects leading to treatment decisions. The objective of this study was to describe clinical and demographic characteristics that determine whether pts receive 1st line therapy for advanced NSCLC. Pt characteristics and determinants of appropriate treatment outlined in evidence-based treatment guidelines were examined.
Methods: Advanced NSCLC pts receiving active care at US Oncology practices utilizing the iKnowMed electronic medical record system with documentation of 1st line chemotherapy regimen initiated between 1/1/2007−2/28/2010.
Results: 6,862 pts met eligibility criteria, 5,313 pts (77.4%) initiated chemotherapy in 1st line setting and 1,549 pts (22.6%) did not. Mean BMI was higher among treated v untreated pts (26.0±5.6 v 25.4±5.6, p = 0.0087); Variation in treatment rates by patient characteristics are given in the table.

Characteristic	No. of patients (Treated %) N = 6,862	P values
Age		0.0011
<65 yrs	2498 (79%)	
65−79 yrs	3051 (78%)	
80+ yrs	895 (73%)	
Gender		0.0233
Male	3,660 (78%)	
Female	3,202 (76%)	
Stage		<0.0001
Recurrent	1,380 (82%)	
1st Diagnosis	4,948 (75%)	
Unknown	534 (86%)	
Region		<0.0001
Midwest	1,063 (60%)	
Northeast	610 (76%)	
South	3,667 (82%)	
West	1,522 (79%)	
Histology		<0.0001
Squamous	1,478 (79%)	
Non-squamous	3,463 (80%)	
NOS	1,921 (72%)	
Baseline ECOG		<0.0001
0	546 (71%)	
1	3,338 (83%)	
2	1,342 (75%)	
3+	232 (60%)	
Unknown	1,404 (71%)	
Payer Status		0.1246
Medicare	3,643 (77%)	
Medicaid	123 (84%)	
Private	1,729 (79%)	
Other	1,350 (77%)	
Unknown	17 (71%)	

Conclusions: These real world data from a national oncology network describe patient characteristics used by physicians to initiate treatment for advanced NSCLC. 77.4% of pts were given 1st line systemic treatment with factors such as age, gender, BMI, stage, region, histology and performance score as strong influencers in treatment decision. Payer status did not significantly impact decision to treat.

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Pattern of Chemotherapy for Advanced Non-small Cell Lung Cancer in Relation to EGFR Mutation Status − Clinical Experience in a Comprehensive Cancer Center in Korea

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Background: Epidermal growth factor receptor (EGFR) mutation is an established predictive marker for EGFR tyrosine kinase inhibitor (TKI) treatment in advanced non-small cell lung cancer (NSCLC). A growing body of evidence supports EGFR mutation testing to guide initial treatment decisions for patients with advanced NSCLC. This study describes the pattern of practice for chemotherapy for NSCLC in a clinical setting in a comprehensive cancer center in Korea.
Method: Retrospective cohort study of 1,527 patients diagnosed with stage IIIb/IV NSCLC at Samsung Medical Center (SMC) in Seoul, Korea, from January 2007 through July 2010.
Results: Data were analyzed from 1,243 patients not involved in clinical trials. The proportions of patients with adenocarcinoma and squamous cell carcinoma were 68.2%, and 18.8%, respectively. The number (percent) of patients who received at least one, two, or three lines of systemic treatment were 1,140 (91.7%), 775 (62.3%) and 487 (39.2%), respectively. EGFR mutation testing was successfully performed in 446 (35.9%) patients, of whom 163 (36.6%) were EGFR positive. The treatments received by EGFR mutation status are shown in the Table. In the pretreated setting, EGFR-TKIs (e.g. erlotinib or gefitinib) were more frequently administered to EGFR M(+) patients compared to EGFR M(−) patients (73.6% vs 44.9%; p < 0.001).

	EGFR mutation (+)	EGFR mutation (−)	EGFR mutation unknown
1st line treatment	**N = 161**	**N = 270**	**N = 709**
Gemcitabine/platinum	88 (54.7%)	159 (58.9%)	446 (62.9%)
Pemetrexed/platinum	33 (20.5%)	49 (18.2%)	34 (4.8%)
Gefitinib	16 (9.9%)	19 (7.0%)	55 (7.8%)
Other	24 (14.9%)	43 (15.9%)	174 (24.5%)
2nd line treatment	**N = 137**	**N = 184**	**N = 454**
Gefitinib/erlotinib	93 (67.9%)	79 (42.9%)	176 (38.8)
Pemetrexed	26 (19.0%)	56 (30.4%)	133 (29.3%)
Gemcitabine/platinum	5 (3.6%)	14 (7.6%)	37 (8.2%)
Other	13 (9.5%)	35 (19.0%)	108 (23.8%)
3rd line treatment	**N = 75**	**N = 119**	**N = 293**
Pemetrexed	32 (42.7%)	34 (28.6%)	78 (26.6%)
Gefitinib/erlotinib	29 (38.7%)	49 (41.2%)	148 (50.5%)
Other	14 (18.7%)	36 (30.2%)	67 (22.9%)

*Percentages may not add to 100% due to rounding errors.

Conclusion: During the study period, EGFR testing and use of EGFR-TKIs were not reimbursed in Korea. Less than 40% of subjects were successfully tested, but the results of EGFR mutation testing influenced the selection of chemotherapy in pretreated patients. Accumulating evidence on the efficacy of EGFR-TKIs and changes in reimbursement policies may change clinical management of advanced NSCLC patients in the future.