Metastatic Non-Small Cell Lung Cancer (mNSCLC): Clinical Characteristics and Treatment Patterns of Patients in Mexico.

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Background

Lung cancer (LC) currently stands as a significant health concern impacting a substantial segment of the global population. This type of cancer has one of the highest mortality rates for neoplastic diseases in Mexico, with 7,100 attributable deaths. Moreover, it is essential to recognize that LC often goes undiagnosed, potentially elevating this number even further. Given these concerning statistics, LC continues to pose a substantial public health challenge in Mexico. This study seeks to delve deeper into comprehending the characteristics of patients with metastatic Non-Small Cell Lung Cancer (mNSCLC) and their treatment patterns within real-world scenarios in Mexico.

Objective

The aim of this study was to assess clinical characteristics of patients with metastatic Non-Small Cell Lung Cancer (mNSCLC) and their treatment patterns in Mexico.

Methods

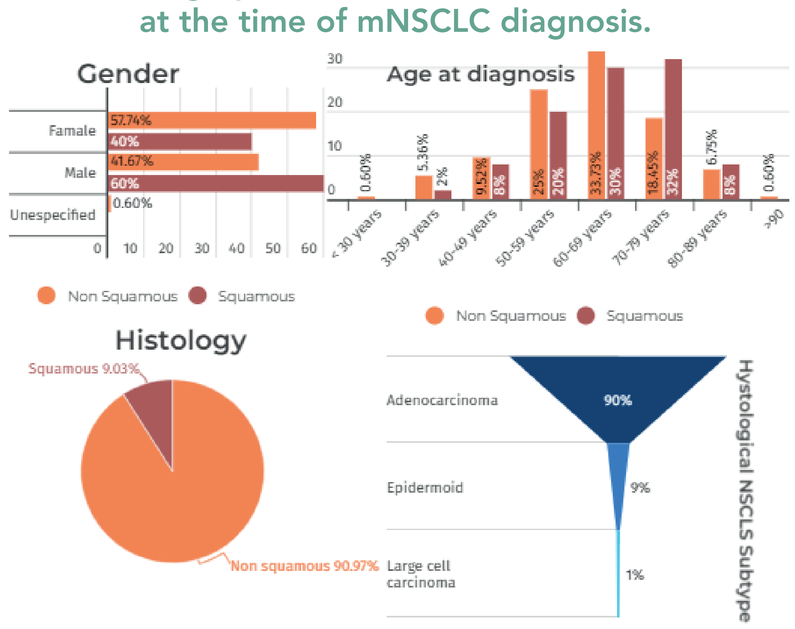
This was a retrospective analysis of the SMEO (Mexican Society for Clinical Oncology) database focused on patients diagnosed with mNSCLC between January 01,2016 and December 31, 2019. Measures of central tendency and dispersion are presented for quantitative variables and frequencies for qualitative variables. The data within the SMEO database originates from various hospitals across Mexico.

Results

1

The analysis included a total of 554 patients, with a mean age of 63.3 years. A similar distribution between female and male patients was observed in age groups from 50 to 69 years. Most tumors were Non-squamous (N=504, 91%), with 90% of patients (N=498) receiving a histological diagnosis of adenocarcinoma, this data is high compared with other regions one possible reason could be the tobacco index (lower than in Europe), but further studies are needed, followed by epidermoid (N=50, 9%) and large cell carcinoma (N=6, 1%). (Graph 1)

Demographic and clinical characteristics at the time of mNSCLC diagnosis.

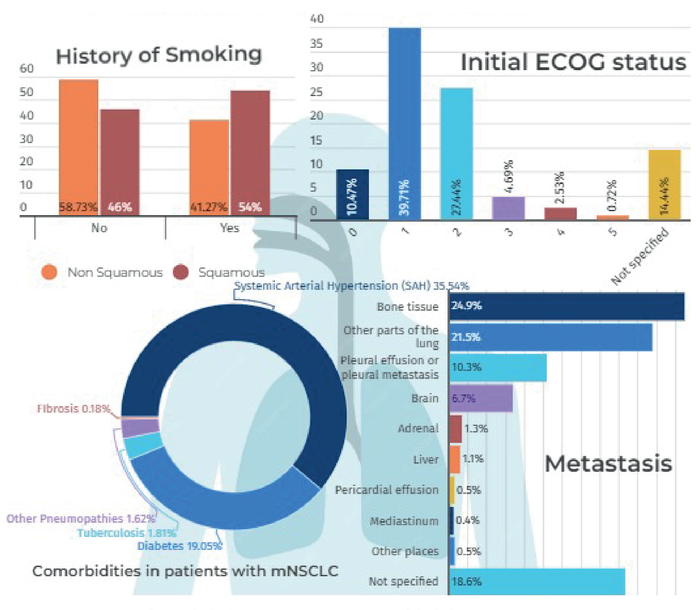


Graph 1. Demographic and clinical characteristics.

2

Smoking Index was 34.4 in patients with squamous cancer and 17.3 in non-squamous group. Asbestos exposure by year was higher in the squamous group (average of 21.6), compared to average of 9.9 in non-squamous group. The main comorbidities observed were Systemic Arterial Hypertension (SAH) in 35.5% (n=197), followed by diabetes in 19.1% (n= 106). Most patients presented with an ECOG Performance Status of 1. In 24.9% (n= 138) of patients cancer had spread to bone at diagnosis, and 21.5% (n=119) showed metastasis to other areas of the lung. This was followed by pleural effusion or pleural metastasis in 10.3% (n= 57) of cases. (Graph 2.)

Patients Characteristics



Graph 2. Patients characteristics of mNSCLC Cohort.

3

EGFR testing was conducted in 374 patients, with 51.3% (n= 192) testing positive. Among the 204 patients evaluated for ALK, 11.8% (n= 24) tested positive. PD-L1 was tested in only 39 patients of the cohort because this test was not performed as routine in the period of the study with 48.7% (n=19) testing positive. (Table 1)

Biomarkers							
	EGFR						
	Non Squamous		Squamous		Total		
	n	%	n	%	n	%	
Positive	188	51.65	4	40	192	51.34	
Negative	176	48.35	6	60	182	48.66	
				Total	374	100	
	ALK						
	Non Squamous		Squamous		Total		
	n	%	n	%	n	%	
Positive	22	11.17	2	28.57	24	11.76	
Negative	175	88.83	5	71.43	180	88.24	
				Total	204	100	
	PD-L1						
	Non Squamous		Squamous		Total		
	n	%	n	%	n	%	
Positive	15	42.86	4	100	19	48.72	
Negative	20	57.14	0	0	20	51.28	
				Total	39	100	

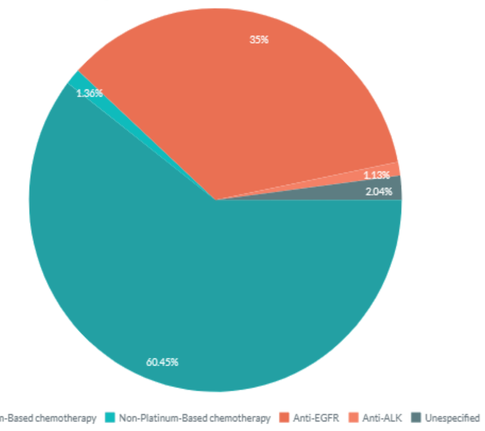
Table 1. Biomarkers results

Regarding treatment patterns, 79.4% (n= 440) of the patients received first-line treatment, 37% (n= 205) second-line treatment, and 15.9% (n= 88) received a third-line treatment. For first line treatment, most patients received platinum-based therapy 60.45% (n= 266), followed by 35% (n= 155) of them receiving anti-EGFR and 1.1% (n= 5) receiving anti-ALK. (Graph 3). Regarding treatment selections, the most common choices were the combination of Paclitaxel + Carboplatin in 43.2% (n= 190) of the patients, followed by Gefitinib in 31.6% (n= 139), and Pemetrexed + Carboplatin in 9.3% (n= 41). It is important to highlight during this period IO were not regulatory approved in México.

4

In terms of treatment patterns, 79.4% of the patients received first-line treatment, 37% second-line treatment, and 15.9% received a third-line treatment. For first line treatment, most patients received platinum-based therapy (60.45%), followed by 35% of them receiving anti-EGFR and 1.1% receiving anti-ALK. (Graph 3). Regarding treatment selections, the most common choices were the combination of Paclitaxel + Carboplatin in 43.2% of the patients, followed by Gefitinib in 31.6%, and Pemetrexed + Carboplatin in 9.3%.

Strategies for Initial Treatment



Graph 3. Initial systemic treatment strategies.

5

In patients that continued to second-line treatment, 79.1% (n= 159) received chemotherapy, followed by 10.5% (n= 21) receiving anti-EGFR and 2% (n= 4) receiving anti-ALK treatment.

Second-line Treatment

Seconde stage	Non Squamous		Squamous		Total	%
	n	%	n	%	n	%
Chemotherapy	146	78.07%	13	92.86%	159	79.10%
Anti EFGR	21	11.23%	0	0%	21	10.45%
Anti ALK	3	1.60%	1	7.14%	4	1.99%
Others	17	9.09%	0	0%	17	8.45%
Total	187	93%	14	7%	201	100%

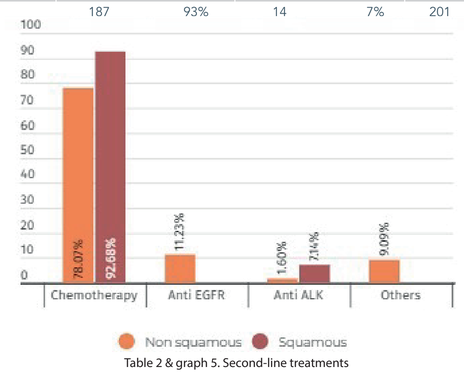


Table 2 & graph 5. Second-line treatments

Conclusions

Conclusions: Within the mNSCLC cohort, non-squamous adenocarcinoma emerged as the predominant histological subtype. A notable distinction was the higher prevalence of smoking and asbestos exposure indices among patients with squamous histology. Despite a substantial number of patients receiving first-line treatment for mNSCLC in our country, only a limited proportion proceeded to receive second-line treatment. Throughout the timeframe analyzed, the carboplatin + paclitaxel combination stood out as the most frequently administered first-line treatment, utilized in 40% (n= 222) of cases. The PDL-1 testing were not performed as a routine in the period of analysis. Epidemiological data, and the frequency of biomarker testing in the field, makes it easier to understand how mNSCLC has been historically treated in Mexico.

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