CLINICAL CHARACTERISTICS AND TREATMENT PATTERNS OF PATIENTS WITH EARLY-STAGE NON-SMALL CELL LUNG CANCER (NSCLC).

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KEYWORDS:

Lung cancer", "Non-small cell lung cancer", NSCLC-NM, Epidemiology, Clinical pattern, Treatment pattern.

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. The analysis of the SMEO (Mexican Society of Clinical Oncology) database in this study will provide insights into real-world evidence of treatment patterns and clinical characteristics of resectable IB, II, and IIIA NSCLC in Mexico, one of Latin America's most populous countries.

OBJECTIVE:

This descriptive study aimed to evaluate the clinical characteristics and identify the main treatment patterns and biomarkers performed among patients with early-stage NSCLC recorded in the SMEO database.

METHODS:

This is a retrospective database analysis of the SMEO database in patients with IB, II, or IIIA NSCLC candidates to surgery, diagnosed between January 01, 2016 and December 31, 2019, all patients must have at least 6 months of follow-up, with a data cutoff date of 06/30/2021, to allow at least 18 months of follow up. Clinical and epidemiological features were reported, as well as the treatments administered to patients. Measures of central tendency and dispersion are presented for quantitative variables, and frequencies and percentages for qualitative variables. The data within the SMEO database originates from various hospitals across Mexico.

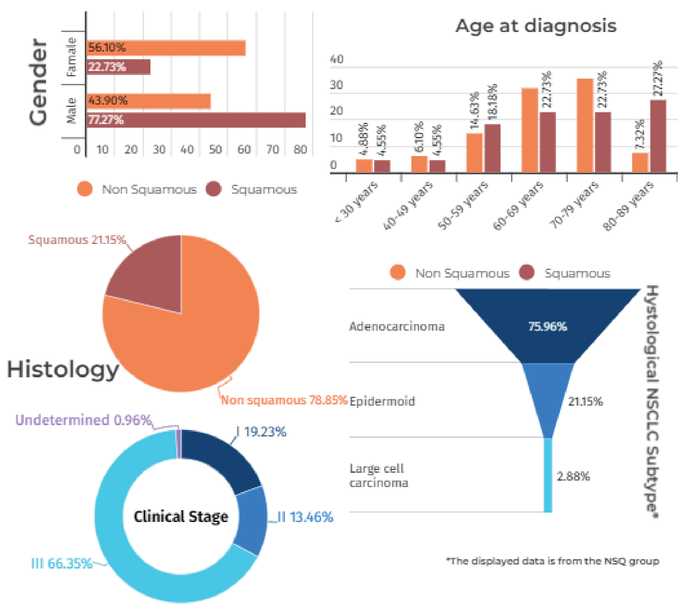
RESULTS

The analysis included a total of 104 patients with a mean age of 64.7 years at diagnosis and a similar distribution between men and women. Predominantly, the tumors were Non-squamous 78.85% (n= 82), with 75.96% (n= 79) of the patients receiving a histological diagnosis of adenocarcinoma and 21.1% (n= 22) diagnosed with epidermoid cancer. Most patients 66.35% (n= 69) were in stage III at diagnosis. (Graph 1).

The smoking index was 48.52 in the squamous group compared to 15.18 in the non-squamous group (p=0.0002, T-test). Additionally, asbestos exposure, measured in years, was significantly higher in the squamous histology group (12) compared to the non-squamous group (1.92) (p=0.004, T-test). The most prevalent comorbidities identified within the cohort were arterial hypertension and diabetes. In both histologies, most patients presented with an ECOG score of 1 at the time of diagnosis (Graph 2).

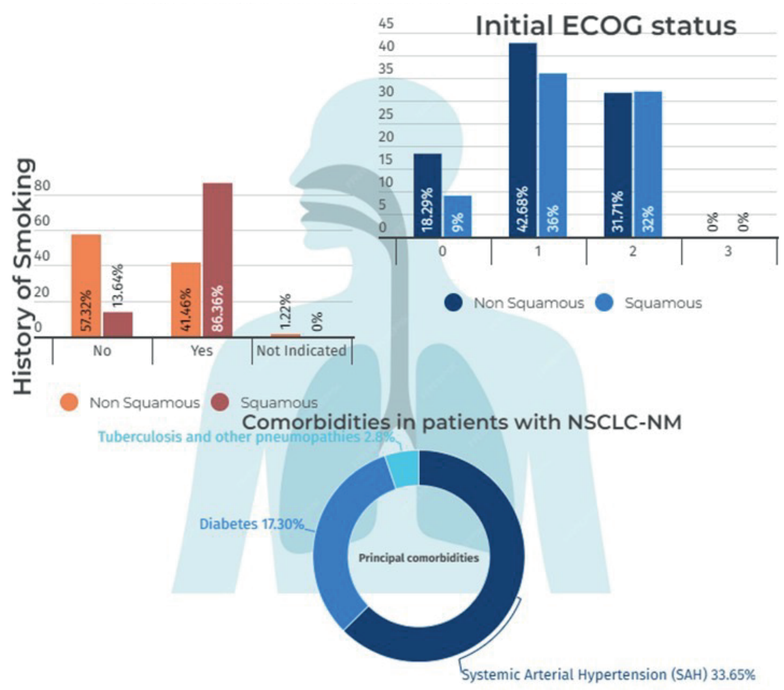
No biomarkers were tested in squamous tumors. EGFR was the most commonly tested biomarker, conducted in 39.42% n= 41) patients, with 34.15% (n= 14) patients testing positive (Table 1).

DEMOGRAPHIC AND CLINICAL CHARACTERISTICS AT THE TIME OF NSCLC DIAGNOSIS



Graph 1. Demographic and clinical characteristics.

PATIENTS CHARACTERISTICS



Graph 2. Patients characteristics of the resectable early-stage NSCLC Cohort

BIOMARKERS		
EGFR	n	%
Positive	14	34.15
Negative	27	65.85
ALK	n	%
Positive	2	13.33
Negative	13	86.67
PD-L1	n	%
TPS >1%	4	100
TPS<1%	0	0
KRAS	n	%
Positive	2	13.33
Negative	13	86.67

Table 1. Biomarkers results

Regarding biomarkers it is important to mention that in Latin-American there is a higher proportion of EGFR mutation reported by Arrieta y Cols being 34.3% [31.9–36.7] for México. Regarding PD-L1 only a few patients were tested (n=4) because the data is raised from a period were PD-L1 was not a therapeutic target.

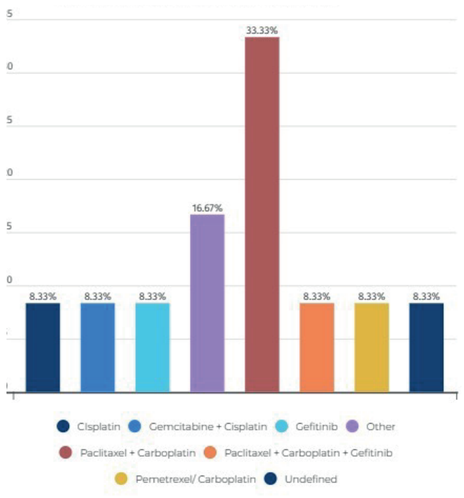
Regarding treatment patterns, 74.03% (n= 77) patients underwent some form of systemic treatment (ST). The most common ST reported in the data base were as follows:

- Most of the patients (31.17%, n=30) were to only adjuvant chemotherapy.
- 29.87% (n=29) received adjuvant chemoradiotherapy.

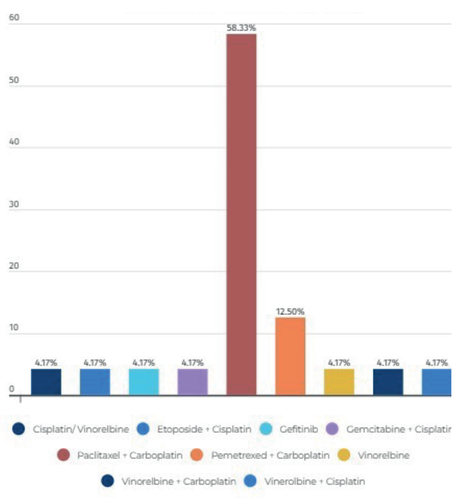
There was 20.78% (n=20) of palliative systemic treatment (patients which only received CHT as primary upfront treatment) for being surgery ineligibles.

Neoadjuvant therapy was administered to 12 patients, with the most common regimen being a combination of Paclitaxel + Carboplatin, received by 33.33% (n= 4). Additionally, 24 patients underwent adjuvant therapy, with the majority 58.33% (n= 14) receiving the Paclitaxel + Carboplatin combination, followed by 12.50% (n= 3) who received Pemetrexed + Carboplatin. (Graph 3)

NEOADJUVANT SYSTEMIC THERAPY



ADJUVANT SYSTEMIC THERAPY



Graph 3. Proportion in percentage of systemic treatments reported

SECOND LINE TREATMENTS REPORTED

Seconde stage	Non Squamous	%	Squamous	%	Total	%
Chemotherapy	20	80%	4	80%	24	80%
Anti EFGR	3	12%	0	0%	3	10%
Other	2	8%	1	20%	3	10%
Total	25	100%	5	100%	30	100%

Table 2. Second line treatments reported

Within the cohort, 38.9% of the patients experienced recurrence or progression. Among those progressing to second-line therapy, the predominant choice was chemotherapy, accounting for 80% of cases (refer to Table 2). The primary treatments in this categoryincluded Docetaxel as monotherapy (36.6%) and the combination of Paclitaxel + Carboplatin (15.6%).

CONCLUSIONS

Most patients were diagnosed in stage III. We observed a higher smoking index and asbestos exposure per year in patients with squamous histology compared to those with non-squamous histology. The Paclitaxel + Carboplatin combination was the predominant treatment choice in both adjuvant and neoadjuvant settings. This study represents the first analysis in Mexico focusing on clinical and treatment patterns in early-stage lung cancer.

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