HOSPITALIZATIONS IN PATIENTS WITH METASTATIC NON-SMALL CELL LUNG CANCER RECEIVING IMMUNOTHERAPY

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Background and importance

The inclusion of **immune checkpoint inhibitors (ICIs)** in lung cancer therapy has provided clinical benefits in first-line and subsequent lines of treatment in this patient population. Although the adverse event profile of ICIs differs from chemotherapy, they still present toxicity risks.

Previous studies have reported a hospitalization incidence of over 50% in lung cancer patients[1], with 37% of these admissions due to treatment-related adverse effects[2].

Aim and Objectives

To determine the **incidence of hospitalization** in patients with **metastatic non-small cell lung cancer (mNSCLC)** receiving pembrolizumab, nivolumab or atezolizumab as monotherapy, and to evaluate the **causes** and **duration** of these admissions.

Materials y Methods

OBSERVATIONAL RETROSPECTIVE STUDY

METASTATIC NON-SMALL CELL LUNG CANCER PATIENTS

TREATED WITH IMMUNOTHERAPY FROM **SEPTEMBER 2015** TO **NOVEMBER 2023**

REASON FOR HOSPITAL ADMISSION FROM THE START OF TREATMENT TO ONE MONTH AFTER COMPLETION

VARIABLES:
-DEMOGRAPHIC AND DISEASE-RELATED: ELECTRONIC MEDICAL RECORD

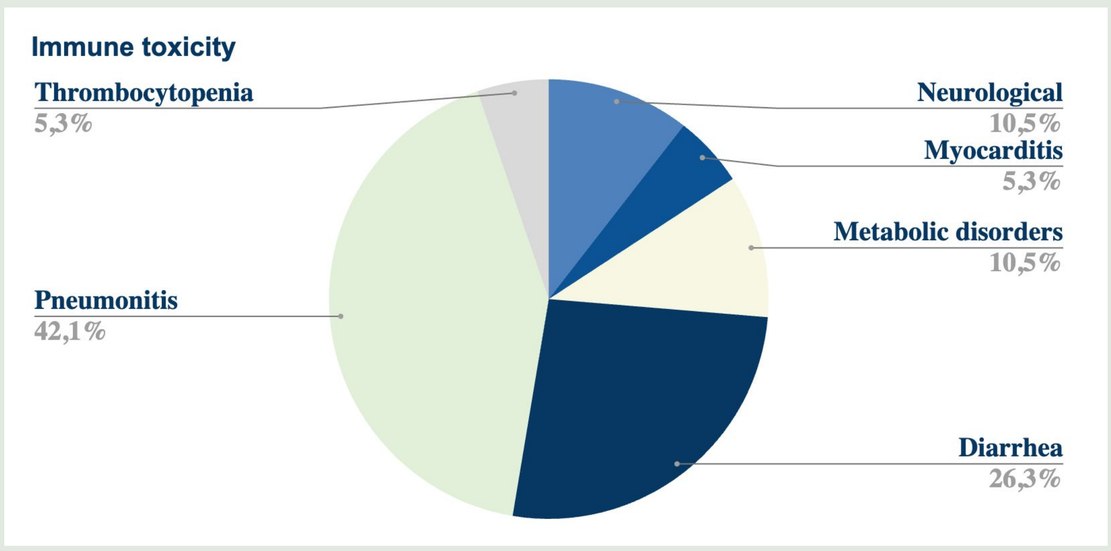
-TREATMENT-RELATED: ELECTRONIC PRESCRIPTION PROGRAM

Results

During treatment with ICIs, **131 hospital admissions** were recorded among the 174 patients with mNSCLC, with a **median hospitalization duration of 7 days.**

The **primary reason** for admission was **disease-related causes** or **progression**.

The studied variables and results are detailed in the following table.



	Pembrolizumab N= 49	Nivolumab N=45	Atezolizumab N=80	Total N=174
Age (median)	68	65	68	67
Sex				
Male n (%)	34 (69,4)	29 (64,4)	65 (79,3)	126 (72,4)
Female n (%)	15 (30,6)	16 (35,6)	17 (20,7)	48 (27,6)
ECOG (start treatment)				
0 n (%)	15 (30,6)	13 (28,9)	23 (28,8)	51 (29,3)
1 n (%)	30 (61,2)	31 (68,9)	50 (62,5)	111 (63,8)
2 n (%)	4 (8,2)	1 (2,2)	7 (8,7)	12 (6,9)
Line of treatment in metastatic disease				
1ª n (%)	44 (89,8)	3 (6,7)	16 (20)	63 (36,2)
2ª n (%)	5 (10,2)	36 (80)	63 (78,7)	104 (59,8)
≥3ª n (%)	0	6 (13,3)	1 (1,3)	7 (4)
Cycles received (median)	4 (1-41)	6(1-198)	3 (1-62)	4 (1-198)
Hospital admissions per patient				
None	25 (51)	22 (48,9)	35 (43,8)	82 (47,1)
1 n (%)	19 (38,8)	15 (33,3)	35 (43,8)	69 (39,7)
2 n (%)	4 (8,2)	4 (8,9)	7 (8,7)	15 (8,6)
≥3 n (%)	1 (2)	4 (8,9)	3 (3,7)	8 (4,6)
Days of hospitalization (median)	7 (2-32)	7,5 (1-48)	6,5 (1-21)	7 (1-48)
Number of admissions	30	41	60	131
Reason for admission				
Immune toxicity n(%)	3 (10)	9 (22)	7(11,7)	**19 (14,5)**
Disease-related causes/ progression n(%)	10 (33,3)	8 (19,5)	24 (40)	**42 (32,1)**
Infectious n(%)	9(30)	14 (34,1)	12 (20)	**35 (26,7)**
Other n(%)	8 (26,7)	10 (24,4)	17 (28,3)	**35 (26,7)**

Conclusion and Relevance:

During ICI monotherapy, **53%** of mNSCLC patients are **hospitalized**, **14.5%** due to **immune toxicity**, with **pneumonitis** as the most prevalent adverse effect. **Pharmacist involvement** in toxicity management, dose optimization, and patient education on warning signs is essential to improve outcomes and reduce hospitalizations.

References:

(1) Roemer M. Statistical brief #270 cancer-related hospitalizations for adults, 2017. Accessed January 10, 2024. Available at: https://hcup-us.ahrq.gov/reports/statbriefs/sb270-Cancer-Hospitalizations-Adults-2017.pdf
(2) Lander E, Li x, Huang LC, Cass A et al. Identification and Characterization of Avoidable Hospital Admissions in Patients With Lung Cancer. J Natl Compr Canc Netw 2023;21(10):1050–1057.

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