66P - Incidence and impact on survival of venous thromboembolic events in patients with advanced non-small cell lung cancer receiving Pembrolizumab as first line of treatment (ID 5165)

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Background

Single-agent Pembrolizumab is a first-line standard-of-care regimen for non small cell lung cancer (NSCLC) patients with high PD-L1 expression (≥50%)[1]. Venous thromboembolic events (VTE) defined both as deep vein thrombosis (DVT) or pulmonary embolism (PE) contributes to morbidity and mortality in NSCLC patients. Limited data are available regarding VTE in advanced NSCLC patients treated with first-line Pembrolizumab.

Our retrospective study aimed to describe VTE incidence and its impact on survival.

Methods

From January 2018 to December 2020, patients with advanced NSCLC PD-L1 ≥50% treated with Pembrolizumab in 3 French oncology centres were retrospectively analysed. Clinical, biological and radiological data were identified by individual chart reviews.

Primary objective :

- Incidence of VTE, defined as a diagnosis of DVT or PE from first administration of Pembrolizumab until last day of follow up

Secondary objectives :

- Impact of VTE on global and progression free survival
- Caracteristics of VTE
- Real life datas on our population

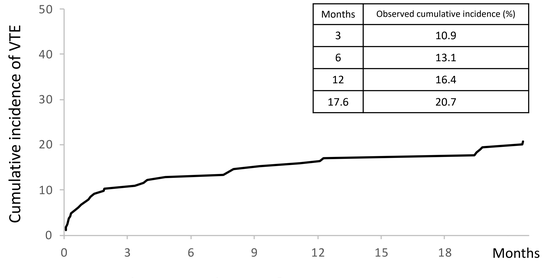
Results

One hundred sixty-four patients (64.6% men) were included with a median follow-up of 17.6 months (0.3-46). Their caracteristics are summarized in Table 1. VTE cumulated incidence rate was 20.7% (n=34/164), including 38% DVT, 35% PE and 27% both. Median time to VTE was 73.5 days (7-608)(figure 1).

A comparison of patients with and without VTE showed that younger age (p=0.011), higher Khorana score (p=0.036), thrombocytosis (p=0.021) and hypoalbuminemia (p<0.001) were associated with a higher risk of VTE.

Caracteristics	Population (n=164)	Without VTE (n=130)	With VTE (n=34)	p-value
Age at diagnosis (year) — n= (%)				**0.011**
>65 ans	65.2 (10.5)	68 (52.3)	9 (26.5)	
≤65 ans		62 (47.7)	25 (73.5)	
Gender — n= (%)				0.428
male	106 (64.6)	86 (66.1)	20 (58.8)	
female	58 (35.4)	44 (33.9)	14 (41.2)	
***Performans status* — n= (%)**				0.225
0-1	134 (81.7)	107 (82.3)	27 (79.4)	
≥2	30 (18.3)	23 (17.7)	7 (20.6)	
Smoking status — n= (%)				0.416
current	48 (29.3)	37 (28.5)	11 (32.3)	
former	102 (61.2)	80 (61.5)	22 (64.7)	
never	14 (8.5)	13 (10)	1 (2.9)	
Body Mass Index (kg/m²) — median (min-max)	24.5 (4.9)	24.7 (14.7-40.8)	23.3 (15.3-39.1)	0.328
Khorana score — n= (%)				**0.036**
1-2	113 (68.9)	95 (73.1)	18 (52.9)	
>2	51 (31.1)	35 (26.9)	16 (47.1)	
History of VTE — n= (%)				0.058
0	156 (95.1)	126 (96.9)	30 (88.2)	
1	8 (4.9)	4 (3.1)	4 (11.7)	
Anticoagulant treatment — n= (%)				0.128
0	145 (88.4)	112 (86.2)	33 (97.1)	
1	19 (11.6)	18 (13.8)	1 (2.9)	
Number of metastatic sites — n= (%)				0.16
0	32 (19.5)	28 (21.5)	4 (11.8)	
1	42 (25.6)	36 (27.7)	6 (17.7)	
>1	90 (54.9)	66 (50.8)	24 (70.6)	
Histology — n= (%)				1
squamous	31 (18.9)	25 (19.2)	6 (17.7)	
non squamous	133 (81.1)	105 (80.8)	28 (82.4)	
PD-L1 — median (min-max)	80 (50-100)	80 (50-100)	80 (50-100)	0.754
Albumin (g/L) — median (min-max) *[13 missing datas]*	37.4 (16.0-49.0)	39 (16-49)	31.9 (17.9-43)	**0.0009**
Hemoglobin (g/dL) — median (min-max)	12.4 (7.7-17.7)	12.7 (8.1-17.1)	11.6 (7.7-16.3)	0.056
White blood cells (G/L) — median (min-max)	9.1 (2.8-47.6)	9.1 (2.8-28.4)	11.2 (6.9-47.6)	0.057
Platelets (G/L) — median (min-max)	314 (87-801)	308 (87-801)	389 (161-765)	**0.021**

Table 1. Patients caracteristics at baseline.



Months	Observed cumulative incidence (%)
3	10.9
6	13.1
12	16.4
17.6	20.7

Figure 1. Cumulative incidence of VTE.

Patients with and without VTE showed no differences for overall survival (OS) (28.2 vs 31.1 months, p=0.82) and progression-free-progression (12.8 vs 10.5 months, p=0.45)(figure 1).

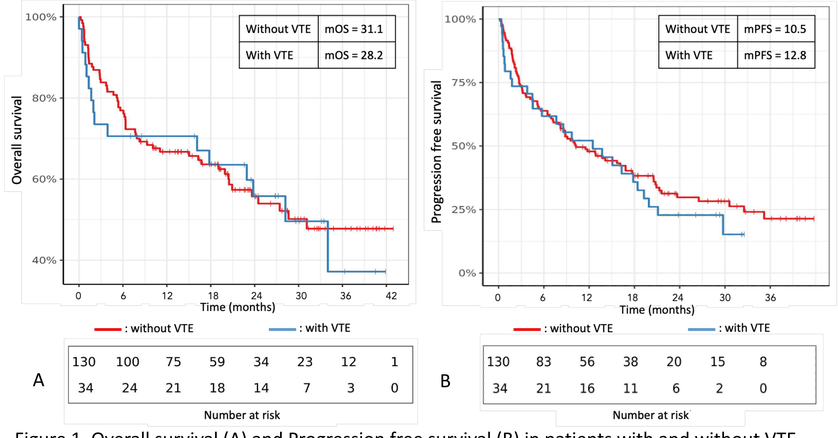


Figure 1. Overall survival (A) and Progression free survival (B) in patients with and without VTE.

In univariate analysis, OS was significantly associated with Performans Status (p<0.001), smoking status (p=0.024), number of metastatic sites (p=0.014) and serous metastasis (p=0.021). VTE was not associated with shorter OS (p=0.82).
In multivariate analysis, only number of metastatic sites (p=0.029) and smoking status (p=0.029) were associated with shorter OS.

Conclusion

First-line Pembrolizumab was associated with a high incidence of VTE in NSCLC patients. However, our study found no association between VTE and a worse survival. Further studies are needed to identify biomarkers and define predictive scores.

References

1. Reck M, Rodríguez-Abreu D, Robinson AG, Hui R, Csőszi T, Fülöp A, et al. Updated Analysis of KEYNOTE-024: Pembrolizumab Versus Platinum-Based Chemotherapy for Advanced Non-Small-Cell Lung Cancer With PD-L1 Tumor Proportion Score of 50% or Greater. J Clin Oncol. 1 mars 2019;37(7):537-46.