Preliminary results of sequential combination of immunotherapy followed by chemotherapy in advanced non-small cell lung cancer (NSCLC)

Heraudet L.[1], Delon T. [2], Veillon R. [2], Vergnenègre C. [2], Lepetit H. [3], Daste A. [1], Ravaud A[4]. , Zysman M. [5], Domblides C.[6]

1 Department of Medical Oncology, Hôpital Saint-André, Bordeaux University Hospital, France ; 2 Pulmonary Department, Pôle Cardio-thoracique, Hôpital Haut-Lévêque, Bordeaux University Hospital, France ; 3 Unité de soutien méthodologique à la recherche clinique et épidémiologique, Bordeaux University Hospital, France ; 4 Medical Oncology Department, Hôpital Saint-André, Bordeaux University Hospital, France / Bordeaux University ; 5 Pulmonary Department, Pôle Cardio-thoracique, Hôpital Haut-Lévêque, Bordeaux University Hospital / INSERM U1045 ; 6 Department of Medical Oncology, Hôpital Saint-André, Bordeaux University Hospital, France / Laboratoire ImmunoConcEpt CNRS UMR5164, Bordeaux, France. Bordeaux, France

Abstract #2266
1314P

Background

- Chemotherapy combined with immune checkpoint inhibitors (ICI) is a standard of care in NSCLC
- Synergy between chemotherapy and ICI is now well etablished
- The effect of sequential combination of chemotherapy and ICI remains unclear
- An increased efficacy of chemotherapy after immunotherapy has been suggested in some studies , in different type of cancer
- We aim to evaluate the potential advantage of different chemotherapy regimen given after ICI compared to the same regimen given without previous ICI

Methods

- Retrospective study between 2015 and 2019
- **152 patients** treated for an advanced NSCLC in university hospital of Bordeaux
- Patients receiving a salvage chemotherapy after ICI (CAI) compared to ICI naive patients (INP) receiving the same chemotherapy regimen
- Primary outcome : **time to treatment discontinuation (TTD)**
- Secondary outcome : **overall survival (OS)** (first day of chemotherapy of interest to death), **overall response rate (ORR)**, **progression free survival (PFS)**
- Chemotherapies studied : paclitaxel (P), Paclitaxel-Bevacizumab (PB), Gemcitabine (G), Pemetrexed (PE)

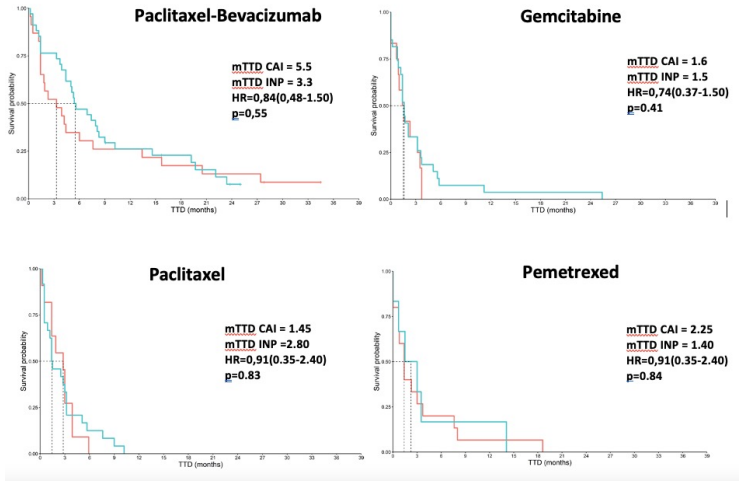
Results

Baseline characteristics

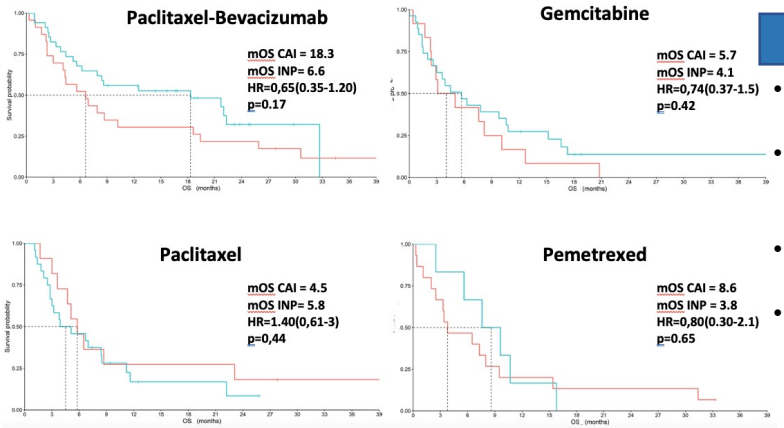
	Paclitaxel-Bevacizumab n=57		Paclitaxel n=35		Pemetrexed n=21		Gemcitabine n=39	
N= 152	CAI (n=34)	INP (n=23)	CAI (n=24)	INP (n=11)	CAI (n=6)	INP(n=15)	CAI (n=27)	INP (n=12)
Median age (Q1-Q3)	57.5 (53-62)	59 (50-65)	63 (53.5-67)	70 (65.5-79)	61 (68.5-70.2)	66 (60.5-72.5)	61 (58.5-66)	64.5 (56.8-70.5)
Gender								
Male	22 (64.7)	16 (69.6)	15 (62.5)	7 (63.6)	3 (50)	7 (46.7)	19 (70.4)	5 (41.7)
Smoking								
Never	2 (5.9)	1 (4.3)	0 (0)	1 (9.1)	0 (0)	4 (26.7)	2 (7.4)	2 (16.7)
Former	28 (82.4)	15 (65.2)	19 (79.2)	9 (81.8)	6 (100)	6 (40)	20 (74.1)	6 (50)
Current	4 (11.8)	7 (30.4)	5 (20.8)	1 (9.1)	0 (0)	5 (33.3)	5 (18.5)	4 (33.3)
Histologic subtype								
Adenocarcinoma	33 (97.5)	23 (100)	15 (62.5)	7 (63.6)	6 (0)	12 (80)	14 (51.9)	6 (50)
Squamous	0 (0)	0 (0)	8 (33.3)	3 (27.3)	0 (0)	1 (6.7)	12 (44.4)	6 (50)
Other	1 (2.9)	0 (0)	1 (4.2)	1 (9.1)	0 (0)	2 (13.3)	1 (3.7)	0 (0)
Median number of lines received (range)	3.5 (3-7)	2 (2-4)	3 (2-6)	2 (1-2)	4 (3-5)	2 (1-3)	4 (2-6)	3 (1-5)
PD-L1 status								
< 1%	14 (41.2)	15 (65.2)	9 (37.5)	1 (9.1)	1 (16.7)	5 (33.3)	9 (33.3)	1 (8.3)
1-49%	8 (23.5)	3 (13.0)	6 (25)	3 (27.3)	4 (66.7)	5 (33.3)	7 (25.9)	1(8.3)
> 50%	5 (14.7)	0 (0)	4 (16.7)	2 (18.2)	1 (16.7)	0 (0)	4 (14.8)	2(16.6)
Unknown	7 (20.6)	5 (21.8)	5 (20.8)	5 (45.4)	0 (0)	5 (33.3)	7 (25.9)	8 (66.6)
ECOG PS								
≤ 1	27 (79.4)	11 (47.8)	8 (33.3)	4 (36.4)	4 (66.6)	8 (53.3)	15 (55.6)	4 (33.3)
> 1	7 (20.6)	12 (52.1)	16 (66.6)	7 (63.6)	2 (33.3)	7 (46.7)	12 (44.4)	8 (66.7)
Type of ICI								
Nivolumab	17 (50)		8 (33.3)		3 (50)		16 (59.3)	
Pembrolizumab	11 (32.4)		8 (33.3)		2 (2)		3 (11.1)	
Atezolizumab	6 (17.6)	-	7 (29.1)	-	1 (16.7)	-	8 (29.6)	-
Other	0 (0)		1 (4.2)		0 (0)		0(0)	
Presence of brain metastasis	23 (67.6)	11 (47.8)	10 (41.7)	3 (27.3)	1 (16.7)	6 (40)	8 (29.6)	5 (41.7)
Presence of liver metastasis	9 (26.5)	6 (26.1)	10 (41.7)	1 (9.1)	2 (33.3)	1 (6.7)	5 (18.5)	4 (33.3)

- Characteristics were almost all comparable
- Except for CAI treated with PB with more patients with an ECOG PS ≤ 1 (p<0.001)
- Median line number received was higher in CAI for all groups

TTD (months)



OS (months)



PFS and response

		mPFS (Months)	ORR (%)
PB	CAI (n=34)	6	**43**
	INP (n=23)	4.1	**39**
P	CAI (n=24)	3.25	**24**
	INP (n=11)	3.1	**10**
PE	CAI (n=6)	2.95	**33**
	INP (n=15)	2.1	**18**
G	CAI (n=27)	2	**18**
	INP (n=12)	2.35	**10**

Conclusion

- No difference in TTD and OS
- Trend to an increased OS with PB when given after ICI
- This results has to be confirmed in larger cohorts
- Place of sequential combination strategies need further investigations

Contact : luc.heraudet@chu-bordeaux.fr

No conflicts of interest to declare