Better survival post lung transplantation for cystic fibrosis patients with previous Achromobacter isolation regardless of antibiotic sensitivity

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BACKGROUNG

- The impact of Achromobacter colonization of cystic fibrosis (CF) patients on post transplantation survival is not well known and it was deemed to be associated with higher risk of posttransplant mortality. - We aimed to evaluate if CF transplanted patients with previous Achromobacter isolation had worst clinical outcomes post lung transplantation (LT).

MATERIAL AND METHODS

- Retrospective monocentric analysis of Foch Lung Transplant cohort between January 2007 and May 2017.

- Exclusion of patients with previous Burkholderia species isolation.
- Categorization as with ("Achromo group") or without ("No Achromo group") pretransplant Achromobacter species isolation.
- Achromobacter at day 0 (explant) or \geq 1 previous sputum positive to Achromobacter before LT define the pre-LT status.

Overall survival

- Graft loss was defined by death or re-LT.

RESULTS

1) Flow chart



3) Early post operative course

	Achromo (n=75)	No achromo (n=174)	р
Induction therapy, n (%)	36 (48%)	96 (55%)	0,39
None, n (%)	34 (49%)	69 (42%)	
Thymoglobulin, n (%)	13 (19%)	40 (24%)	0,54
Basiliximab, n (%)	23 (32%)	56 (34%)	
Extubation in operative room (OR), n (%)	16 (21%)	59 (34%)	0,05
ECMO post operative, n (%)	16 (21%)	47 (27%)	0,43

6) Survival curve





2) Baseline characteristics

	Achromo (n=75)	No achromo (n=174)	р
Gender (male) <i>,</i> n (%)	36 (48%)	82 (47%)	1
Age at transplantation, mean (sd)	30,8 (8,9)	31,11 (9,6)	0,94
Length on waiting list, days (sd)	61 (98)	42 (63)	0,08
LAS (Lung Allocation Score), mean (sd)	43 (13)	53 (45)	0,09
Body Mass Index (BMI), mean (sd)	18,9 (2,4)	18,35 (2,3)	0,08
High Emergency Lung Transplantation (HELT), n (%)	10 (13,3%)	41 (23,6%)	0,09
ECMO pre-LT, n (%)	7 (9,3%)	18 (10,3%)	1
Renal function before LT (MDRD), mean (sd)	139,1 (55,3)	144,2 (62,1)	0,73

 \rightarrow No difference between the two groups for baseline characteristics pre-LT.

Resistance to antibiotics for « Achromo group » (n=66) - Day 0 documentation or last sputum		
S to Piperacillin/tazobactam	38 (57%)	
R to Piperacillin/tazobactam, S to Imipenem	10 (15%)	
R to beta lactamin/penem	18 (27%)	
Cotrimoxazole R +	40 (78%)	
Minocyclin S ++	12 (48%)	
Tigecyclin R ++	5 (20%)	
S : sensitive, R : resistant † n=51, †† n=25		

 \rightarrow Trend to less extubation in OR in « Achromo group ».

4) Post-operative isolation

Positive sputum to Achromobacter	Achromo (n=75)	No achromo (n=174)	р
Between 1 and 6 months after LT, n (%)	21 (28%)	3 (1,7%)	< 0.0001 *
At year 1 after LT, n (%)	1 (1,3%)	1 (0,6%)	0,51

 \rightarrow Higher colonisation post LT in « Achromo group ». \rightarrow No more difference at 1 year.

5) Infectious events

Number of bacterial inftrathoracic infections after LT between :	Achromo (n=75)	No achromo (n=174)	р
Day 0 and day 7, mean (sd)	0,23 (0,4)	0,2 (0,5)	0,64
Day 7 and Month 1, mean (sd)	0,25 (0,5)	0,27 (0,5)	0,71
/Ionth 1 and Month 3, mean (sd)	0,16 (0,4)	0,24 (0,5)	0,33
/Ionth 3 and Month 6, mean (sd)	0,16 (0,4)	0,18 (0,5)	0,58
/Ionth 6 and Month 12, mean (sd)	0,19 (0,5)	0,26 (0,6)	0,63
otal, mean (sd)	0,97 (1,3)	1,13 (1,3)	0,47



 \rightarrow Better survival in « Achromo group » than in « No Achromo group ».

Survival after one year



 \rightarrow Trend to better survival in « Achromo group » than in « No Achromo group » even after one year post LT.

 \rightarrow No difference in infectious events between the two groups for infectious episodes.

CONCLUSION

"Achromo group" patients have better graft survival. No reluctance for considering LT for patients with Achromobacter isolation despite the multidrug resistance. Trend to better prognosis in "Achromo group" patients, not only in early post operative course. No difference in infectious complications in "Achromo group". Further analysis are needed to understand better results in "Achromo group".