Clinical relevance of circulating autoantibodies in idiopathic pulmonary fibrosis; A NAt hard to break.

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INTRODUCTION & AIM

- Idiopathic pulmonary fibrosis (IPF) is the most aggressive form of interstitial lung diseases (ILDs). Exclusion of secondary fibrotic ILDs, especially those associated with autoimmunity, is mandatory because of differential prognosis and treatment. To this end, autoantibody titers can shed light to an underlying autoimmune disease, however IPF cases with positive autoantibody titers, which are rather common can be complicated as the clinical relevance of autoantibodies in IPF has not been fully elucidated
- The aim of the present study was to evaluate the influence of autoantibody status on the lung function and on 3-year survival

METHODOLOGY

- 102 IPF on-medication patients were included in this retrospective study, with a 3 year follow up at the Outpatient ILD Clinics of Respiratory Medicine Department of University Hospital of Larissa, Respiratory Medicine Department of University Hospital of Ioannina and Respiratory Medicine Department of Corfu General Hospital
- Medical history, pulmonary function tests, antibody titers and prognosis were collected and analyzed

RESULTS

- Mean age was 71,8 years, with a male/ female ratio of 4:1
- Positive autoantibodies were found in 47 patients (48% of patients)
- Study population had a mean Forced Vital Capacity (FVC) of 2.67 ± 0.84 L (77.48 ± 19.22%) and a mean DLCO of 3.96 ± 1.53 mmol/min/kPa (48.20 ± 16.4%), at diagnosis
- Baseline DLCO (HR = 1.66. 95% CI 1.09–2.54 p = 0.018) and DLCO percent decline during the first year following diagnosis were associated with all-cause mortality in IPF patients (HR = 0.94 95% CI 0.89–1, p = 0.049)
- FVC decline was independent of autoantibody status
- DLCO decline was dependent of autoantibody status- patents with antibodies had a slower decline in DLCO
- No difference in terms of baseline demographics and pulmonary function tests was detected when comparing patients with and without autoantibodies
- No association was observed between autoantibody status and survival (HR =0.77. 95% CI 0.23–1.33)

CONCLUSIONS

Patients with circulating autoantibodies, at some point during the disease course progressed slower in terms of DLCO compared to seronegative controls. Also, there was a tendency for improved survival in seropositive participants but it was not statistically significant

	Seronegative patients	Seropositive patients	*p*-value	Cohort
Patient number	55	47	-	102
Age (mean ± SD)	72.40 ± 9.60	71.10 ± 9.43	>0.05	71.80 ± 9.50
Male	83.60%	76.60%	>0.05	80.40%
Smoking status				
Non	11 (20%)	15 (31.9%)	>0.05	26 (25.5%)
Ex	38 (69.1%)	25 (53.2%)	>0.05	13 (61.8%)
Active	6 (10.9%)	7 (14.9%)	>0.05	63 (12.7%)
Autoantibodies				
ANA	-	35 (74.5%)	-	-
RF	-	14 (29.7%)	-	-
Antigen specific	-	5 (10.6%)	-	-
Pulmonary function trajectory				
Baseline absolute FVC (mean ± SD)	2.66 ± 0.9	2.67 ± 0.75	>0.05	2.67 ± 0.84
Baseline FVC % predicted (mean ± SD)	77.66 ± 21.88%	79.02 ± 17.42%	>0.05	77.48 ± 19.22%
Baseline absolute DLCO (mean ± SD)	3.85 ± 1.6	4.09 ± 1.45	>0.05	3.96 ± 1.53
Baseline DLCO % predicted (mean ± SD)	45.92 ± 15.92%	51.01 ± 16.89%	>0.05	48.2 ± 16.4%
Total ΔFVC (mean ± SD)	−2.85 ± 14.1%	−7.73 ± 12.7%	>0.05	−5.26 ± 13.63%
Total DLCO (mean ± SD)	−14.45 ± 14.26%	−7.86 ± 12.42%	0.041	−14.45 ± 2.05%
Mean annual ΔFVC (mean ± SE/SD)	−1.23 ± 2.46%	−1.78 ± 4.01%	>0.05	−1.45 ± 0.61%
Mean annual ΔDLCO (mean ± SD)	−6.92 ± 6.81%	−3.73 ± 7.53%	0.042	−4.82 ± 7.41%
Clinically significant FVC decline	40 (72.7%)	37 (78.7%)	>0.05	77 (75.5%)
Clinically significant DLCO decline	34 (61.8%)	28 (59.6%)	>0.05	62 (60.8%)

Figure 1: Demmographic data and evolution of pulmonary function test parameters for seronegative patients and seropositive patients

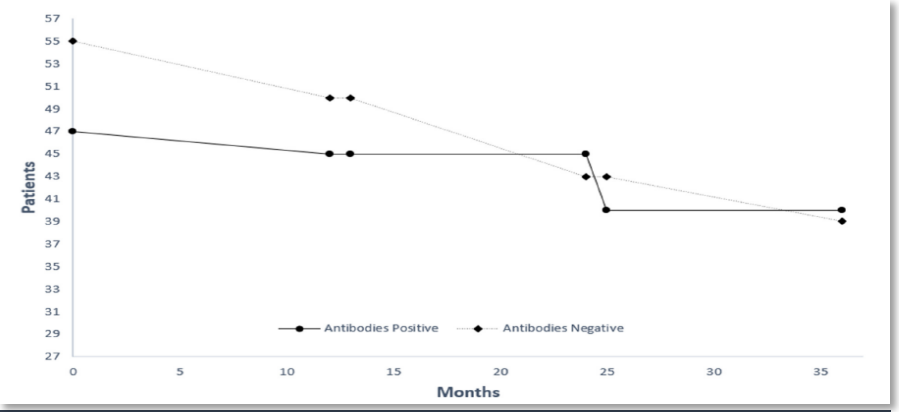

Figure 2: Kaplan-Meier estimate of survival for patients with (black line) and without (grey line) antibodies