

ABPA IN CYSTIC FIBROSIS PATIENTS

VALUE OF BIOLOGICAL MARKERS

**H Fricker-Hidalgo¹, B Coltey², C Llerena²,
JC Renversez³, R Grillot¹, I Pin²,
H Pelloux¹, Claudine Pinel¹**

¹ Laboratoire de Parasitologie-Mycologie

² Service de Pneumologie

³ Laboratoire de Biologie Intégrée

CHU de Grenoble, France.

Diagnosis value of two recombinant antigens: rAspf 4 and rAspf 6 associated with: specific IgG, total IgE detection and mycological data

- **68 cystic fibrosis patients**
 - 50 patients without ABPA (1 serum/ patient) but 2 with bronchitis and 1 with fungal sinusitis
 - 18 patients with ABPA (5 sequential sera/patient)
 - 15 proven and 3 probable ABPA

Recombinant antigens tested

- Higher sensitivity and specificity in ABPA patients
 - **r Aspf 4**, 30 kDa protein of unknown function
 - **r Aspf 6**, 23 kDa superoxide dismutase

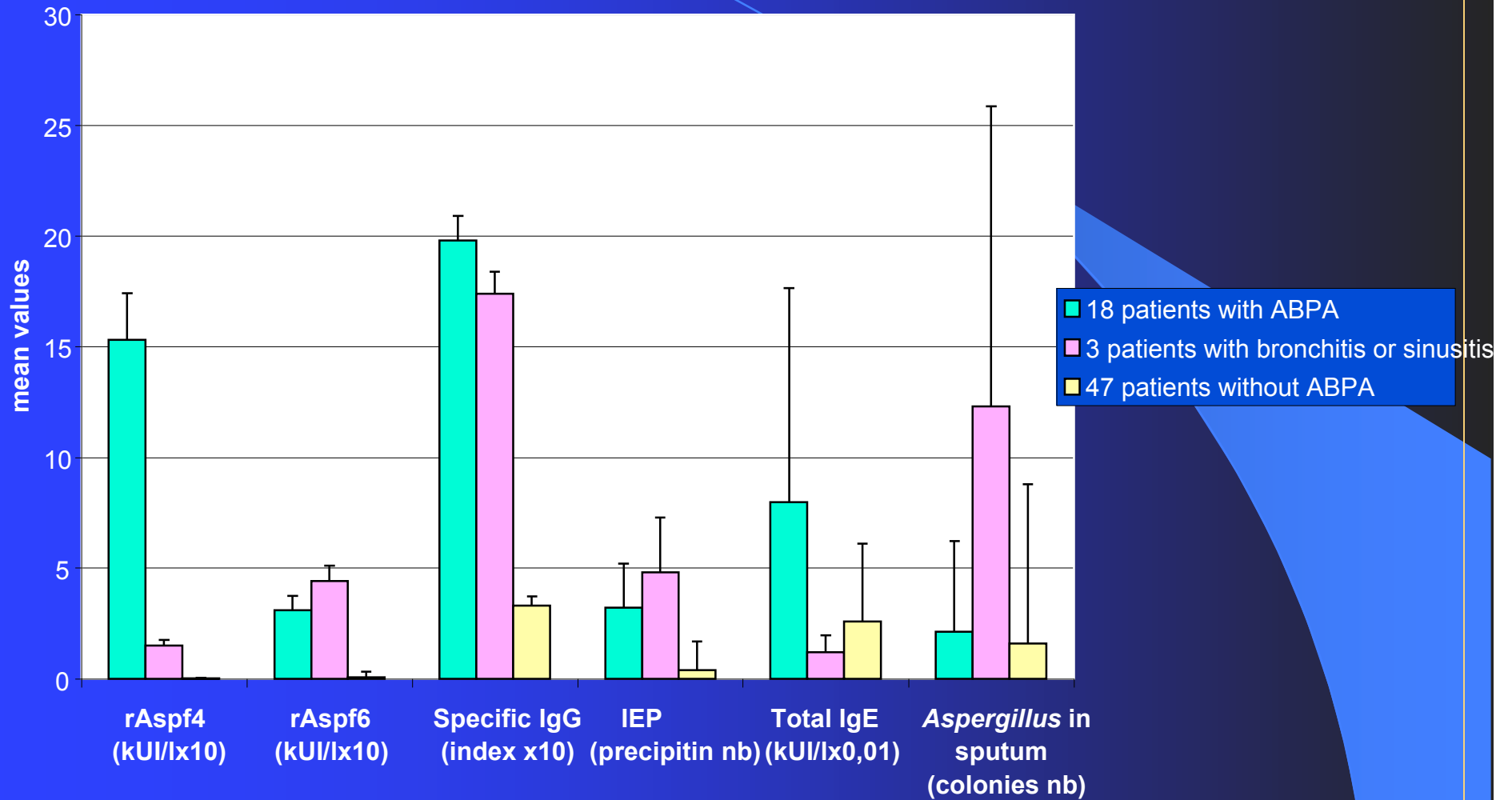
Biological parameters

- Recombinants antigens; **rAspf 4** and **rAspf 6** (Phadia, Unicap method)
- Total IgE (Phadia, Unicap method)
- Specific IgG (quantitative detection by home made ELISA IgG, precipitins detection by IEP)
- Mycological culture of sputum

Results (%)

	sensitivity	specificity	Negative predictive value	Positive predictive value
rAspf 4	80	94	94	80
rAspf 6	47	92	85	64
Spe IgG	93	86	98	67
IEP	93	88	98	70
Total IgE	69	82	88	60
Asp in sputum	64	85	88	60


Mean of biological test results of the 68 cystic fibrosis patients



Positivity prior to the ABPA development

- 16 patients with ABPA have had serum samples collected before ABPA diagnosis during the clinical and serological survey
 - *A fumigatus* grown in **66% of samples**
 - ELISA (IgG) and IEP were positive before ABPA diagnosis in **43% of cases**
 - Total IgE were positive (> 500 kUI/L) in **50% of cases**
 - **rAspf 4** and **r Aspf 6** were positive in **7% of cases**

Recombinant interest in ABPA diagnosis

- **rAspf 4 and rAspf 6**
 - Biological markers less sensitive but most specific than specific IgG or total IgE.
 - Levels  just during acute ABPA
- **rAspf 4** seems the most accuracy and can be complementary added to other biological markers

Conclusion

- ABPA diagnosis required an association of criteria, **rAspf 4** could be of interest
- Total IgE level was not always positive (false positive and negative results)
- Specific IgG ELISA increased during exacerbation, interest of ELISA and IEP in sABPA ? Early medical attention

Acknowledgments to Phadia Society for providing recombinants free of charge