

# **Hypersensitivity Pneumonitis: Update on Treatment Approaches**

Robert Hallowell, MD

# Disclosures

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- Speaking and consulting fees from Boehringer Ingelheim, Genentech, Vicore
- Research trials with Boehringer, Genentech, Galapagos, Hoffmann-La Roche, Nitto Denko
- Authorship fees from UpToDate, Dynamed
- Medical Advisory Board: The Myositis Association

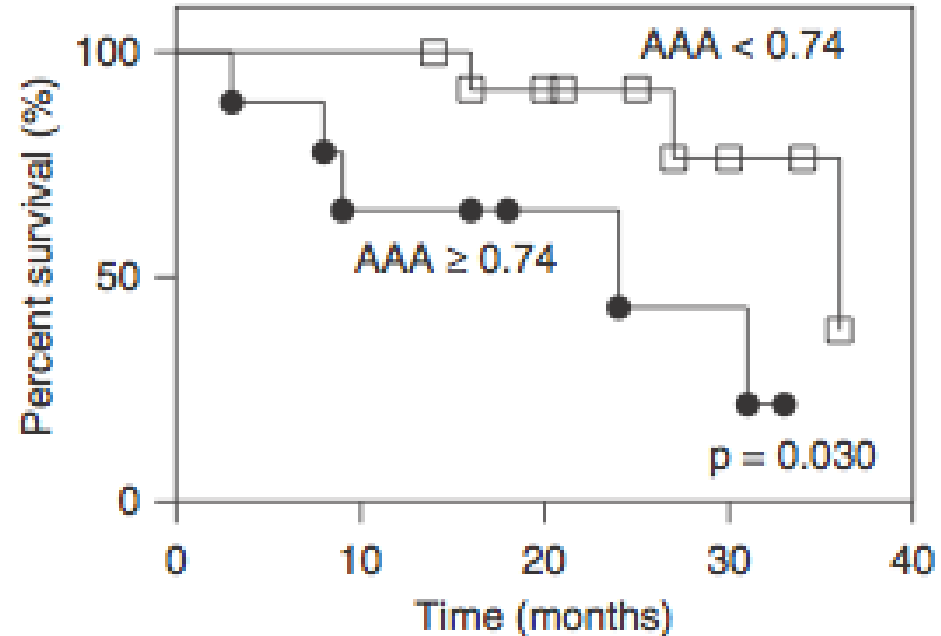
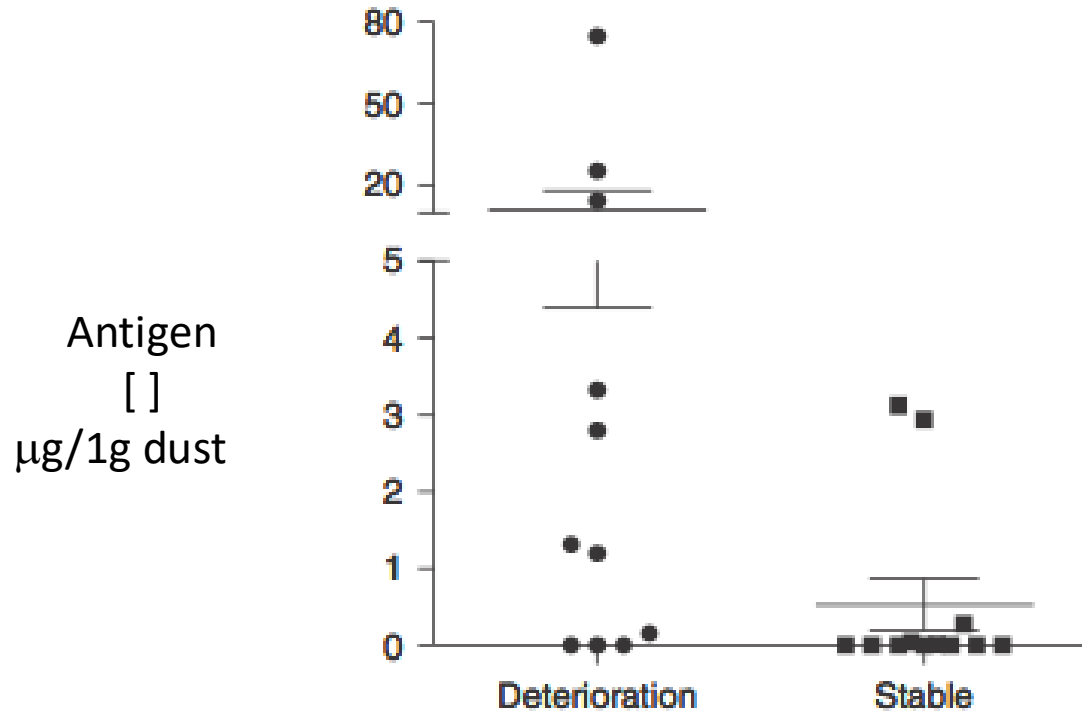


# The exposure history is critical but difficult to obtain



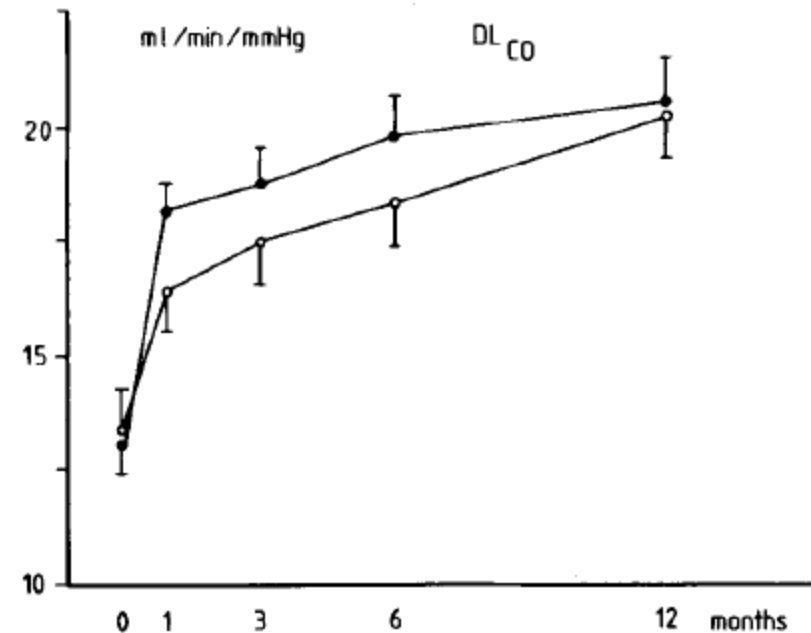
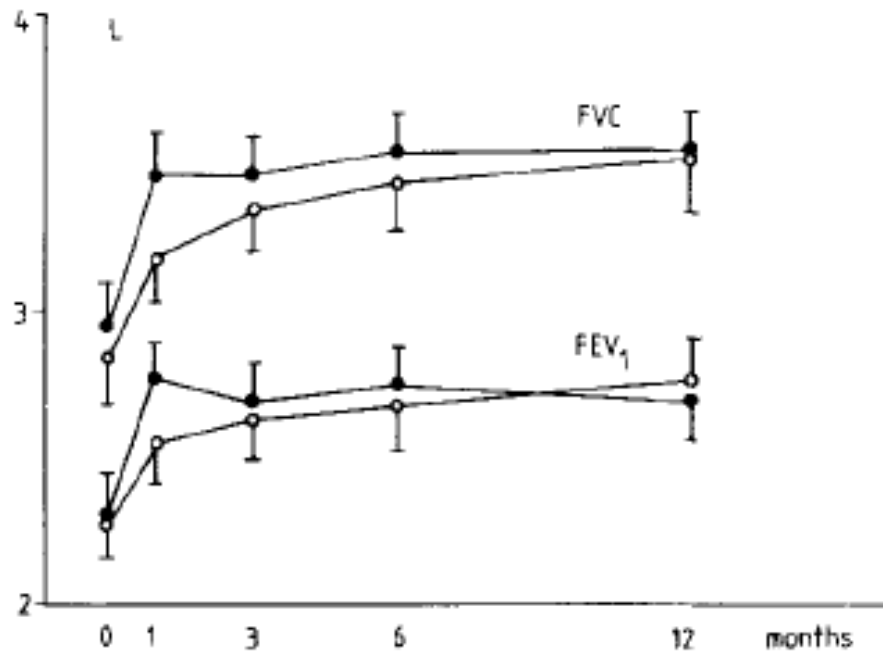
# Antigen avoidance is first-line therapy

23 patients with Bird Fancier's Lung (mostly down comforters)

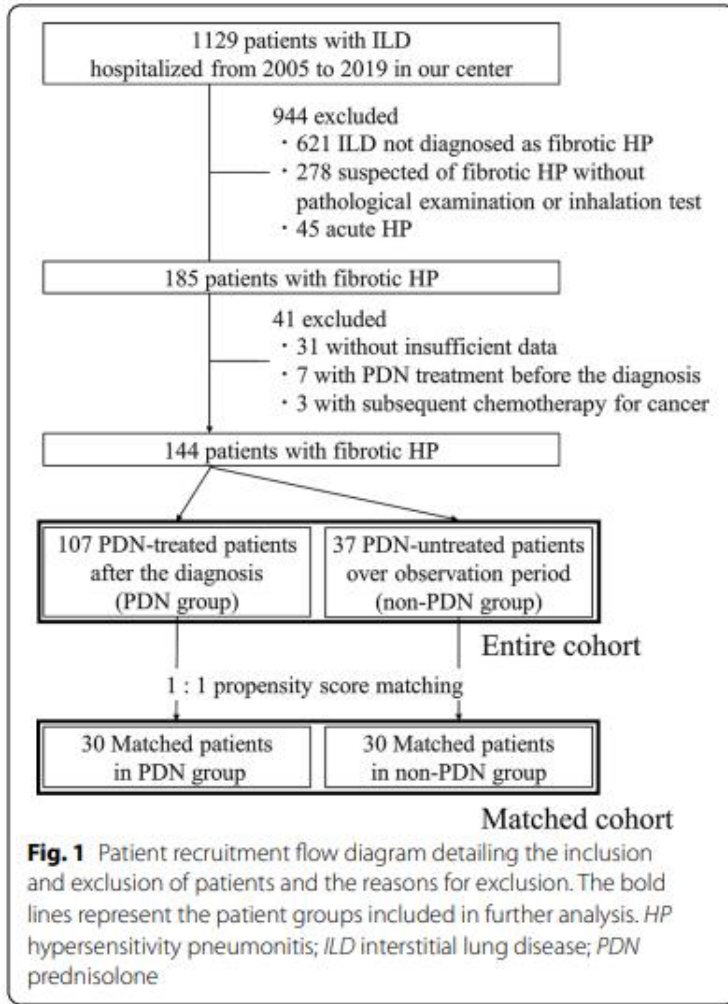


# The impact of steroids on acute HP

- 36 patients with acute Farmer's Lung in a randomized, double-blind, placebo trial
  - 20 received prednisolone (40 mg tapered over 8 weeks); 16 received placebo



# Steroids may be beneficial in cHP



## Baseline characteristics:

### Antifibrotics

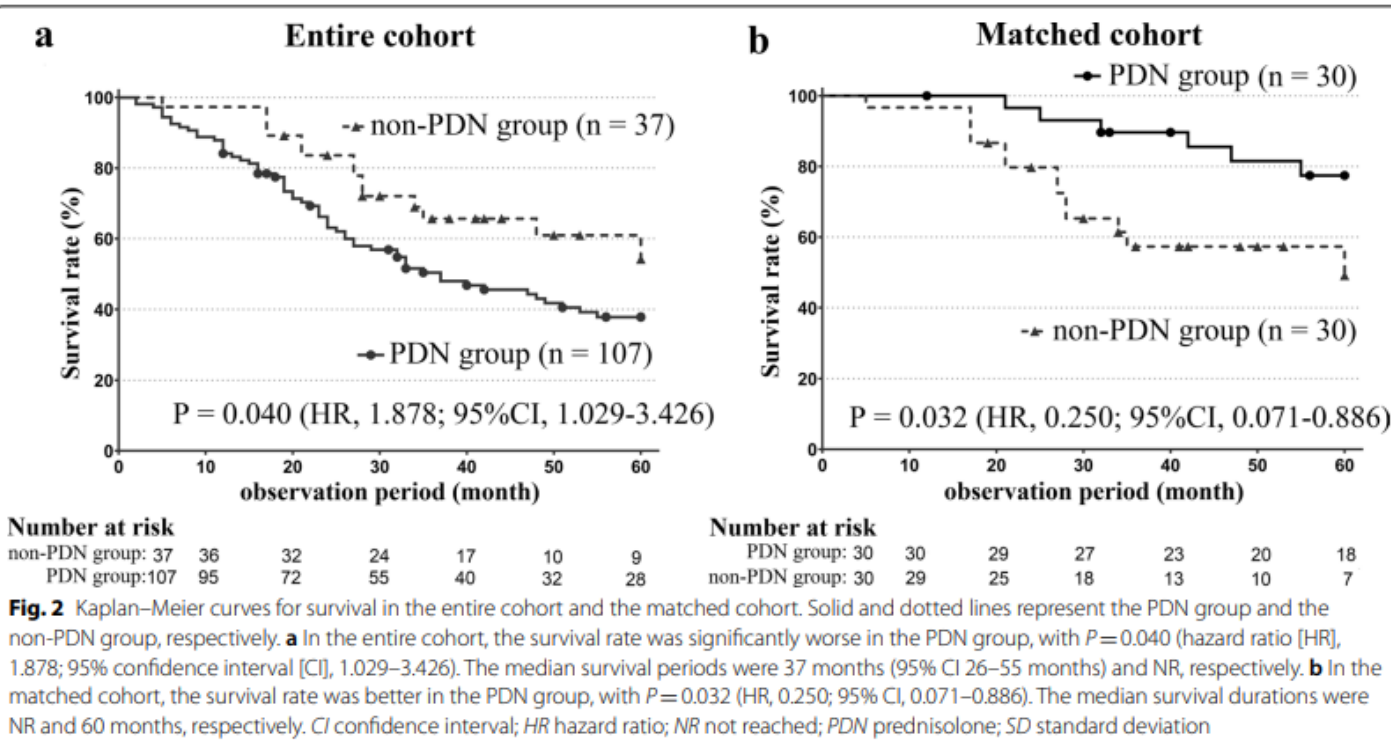
13% pred group; 22% non-pred group (NS)

### Immunosuppression

46% in the pred group (mostly CsA, TAC)

0% in the non-pred group

# Steroids may be beneficial in cHP



## For the *Entire* cohort:

PDN group was sicker at baseline

FVC 58% vs 71% ( $p<0.001$ )

DLCO 45% vs 56% ( $p=0.005$ )

PDN group had more fibrosis

Traction bronchiectasis 93% vs 78% ( $P=0.03$ )

Honeycombing 58% vs 38% ( $p=0.055$ )

## For the *Matched* cohort:

Most patients did not have extensive fibrosis

Propensity score based on the following: Age, sex, smoking history, %FVC, %FEV1, presence of honeycombing, traction bronchiectasis and mosaic attenuation on CT

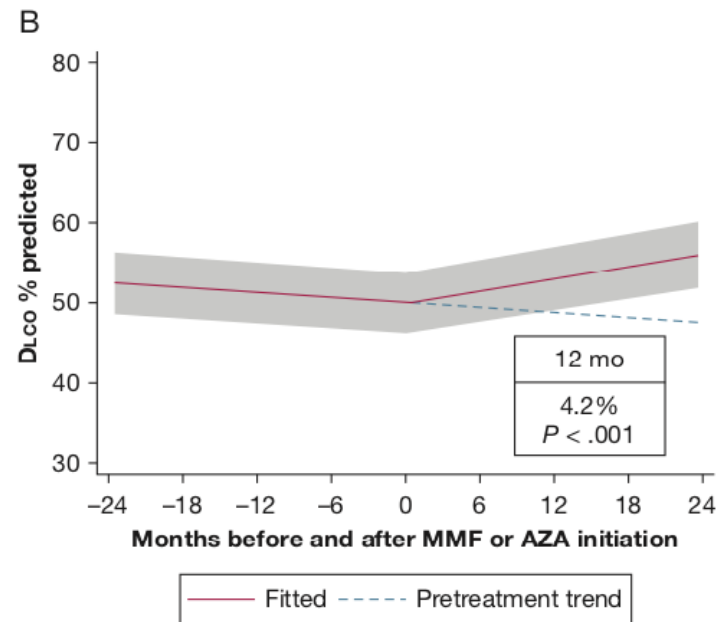
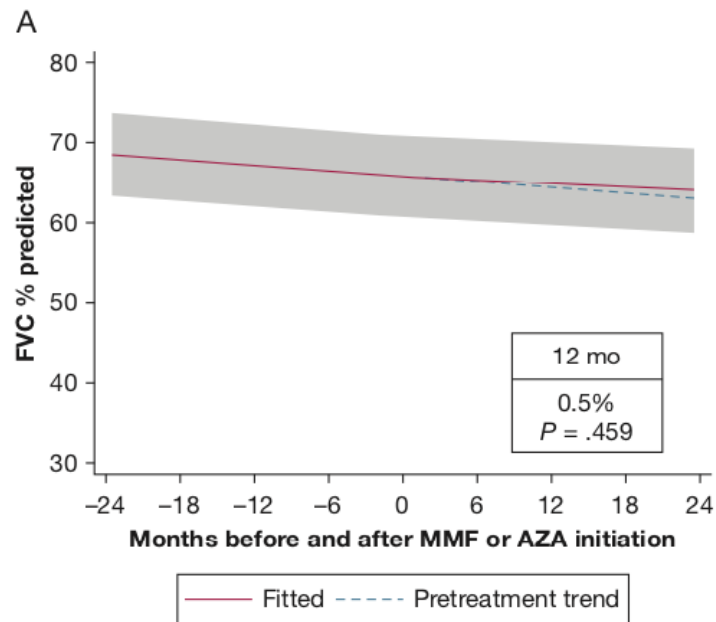
# Steroid-sparing agents may be beneficial

Retrospective evaluation of 70 patients with chronic HP

51 received MMF

19 received AZA

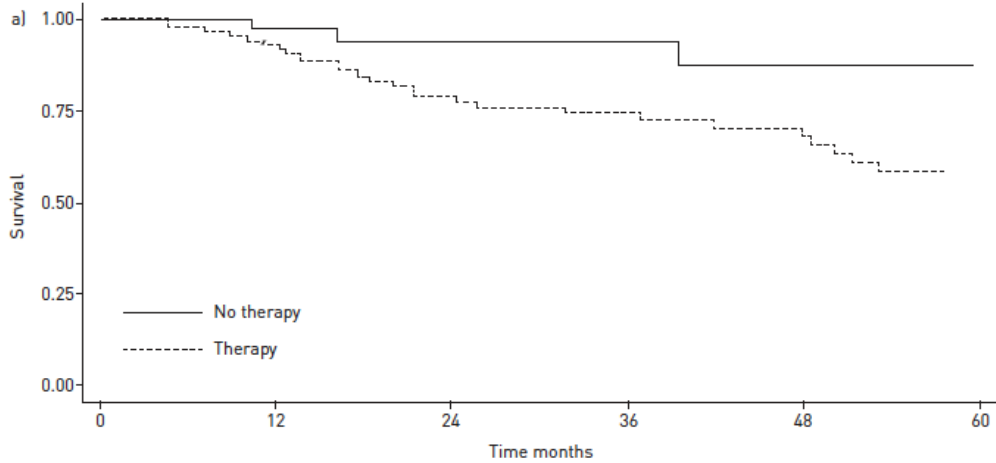
(84% were receiving concurrent prednisone)



FVC 10% improvement in 13% of patients  
DLCO 10% improvement in 20% of patients  
Ave prednisone (mg/d) 12.3 → 3.75



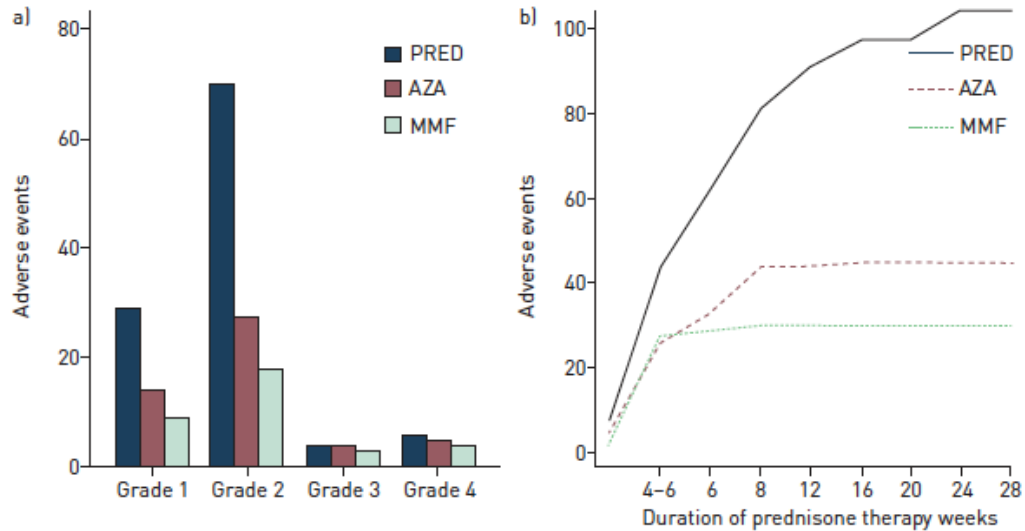
# Use steroid-sparing agents early if immunosuppression is needed



131 chronic HP patients  
71% received immunosuppression

Same outcome prednisone/AZA/MMF

TEAEs (vs prednisone):  
54% less w/ AZA  
66% less w/ MMF



# Rituximab for chronic HP

Retrospective study of 20 cHP patients progressing despite antigen avoidance

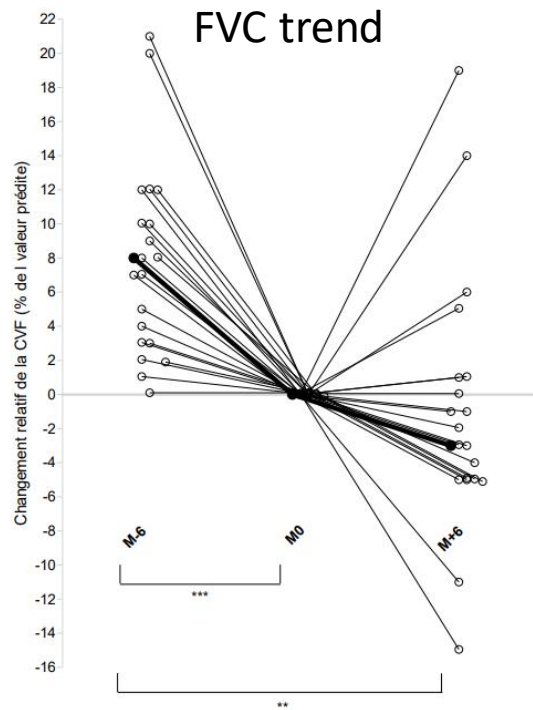


Figure 1: relative change in FVC (% of predicted value), 6 months before and after the introduction of rituximab (n = 20). The median value is represented by the bold line. \*\* and \*\*\*:  $p < 0.01$  and  $< 0.001$ , respectively.

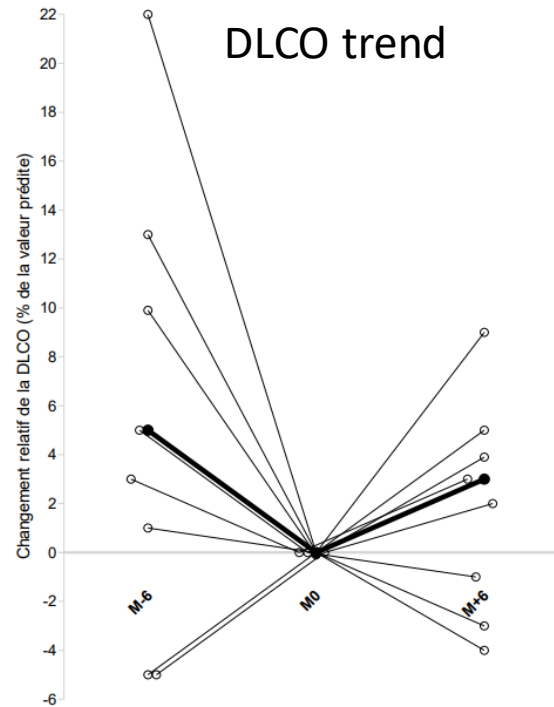


Figure 2: relative change in DLCO (% of predicted value) in 8 patients (for whom a DLCO value was available at the initiation of rituximab), 6 months before and after the introduction of rituximab. The median value is represented by the bold line.

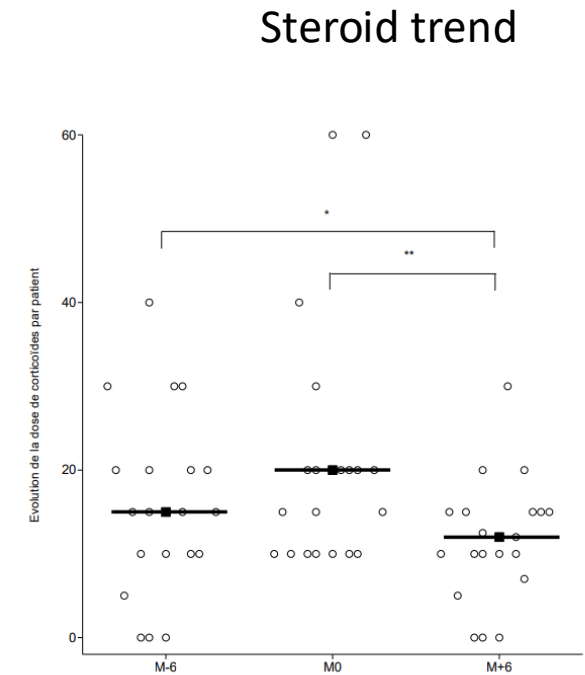
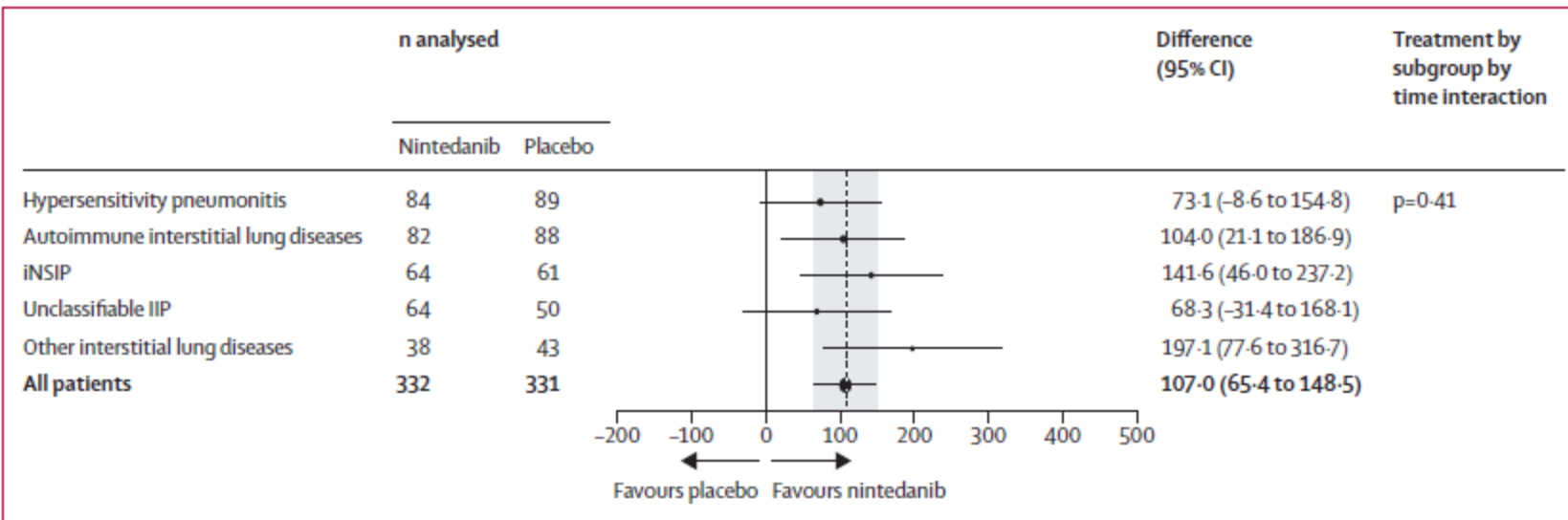
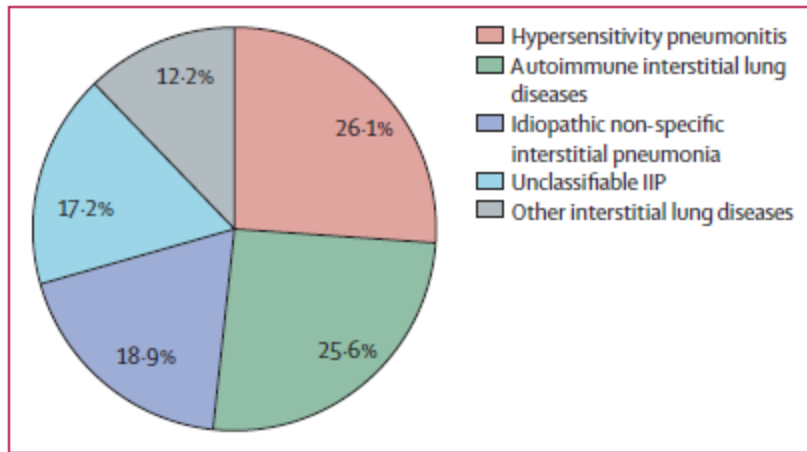


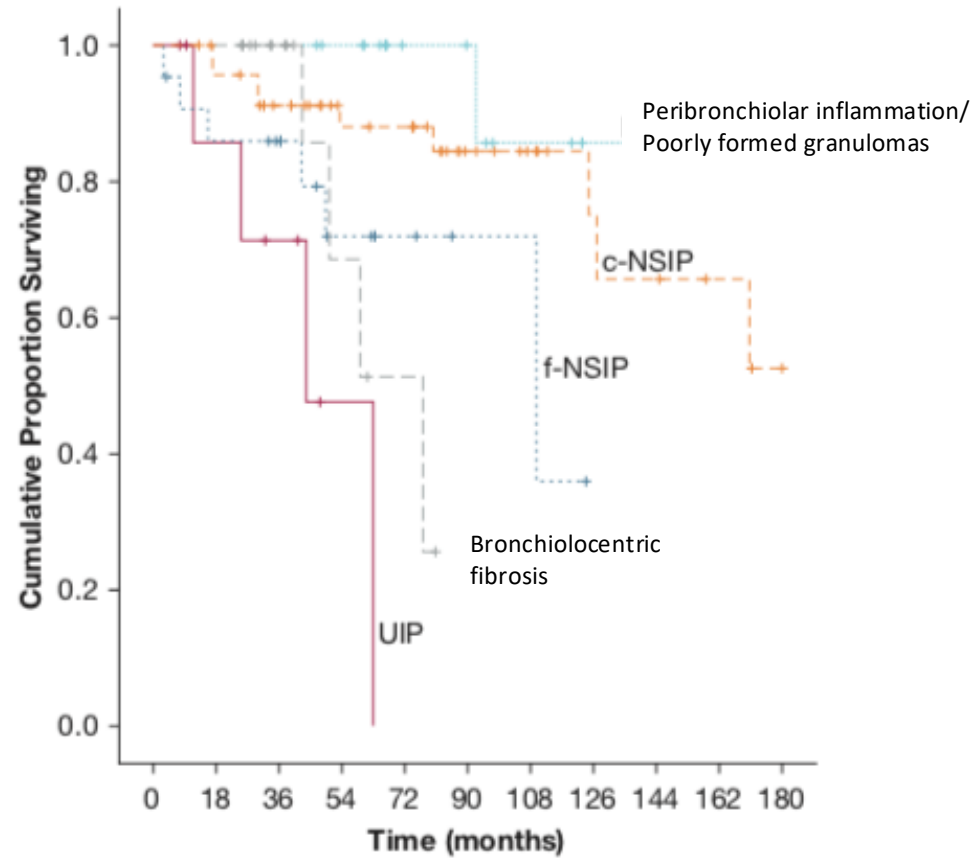
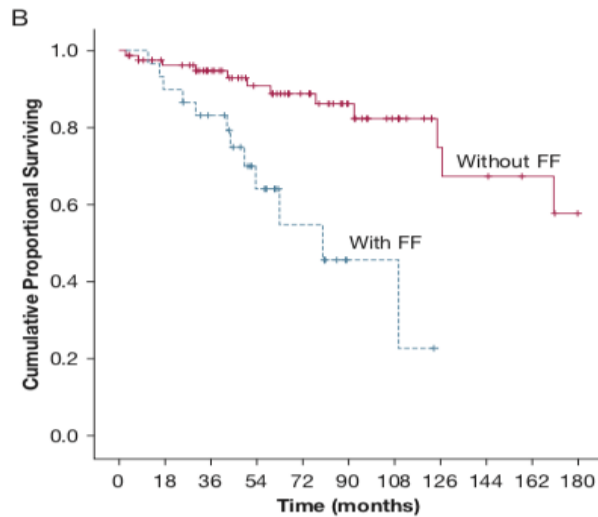
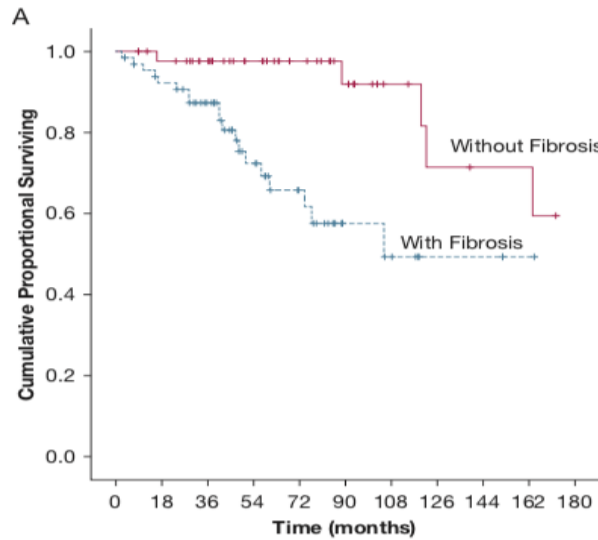
Figure 3: Difference in the dose of corticosteroids 6 months before and after the introduction of rituximab (n = 20). The median values are represented by the bold lines. \* and \*\*:  $p < 0.05$  and  $< 0.01$  respectively.

# Nintedanib has been used to treat fibrotic HP (INBUILD trial)



# Pathology determines outcomes in chronic HP

119 patients with cHP and pathology





International Pillow Fight Day 2023 (April 1)

**(Masks optional)**



# Summary

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- HP can be challenging to treat, and frequently presents with a progressive fibrotic phenotype
- When identifiable, avoidance of the implicated organic antigen is critical
- The use of immunosuppression may improve outcomes for select patients with an inflammatory component of disease
- Antifibrotic therapy may play a role in patients with progressively fibrotic disease

