

CORRESPONDENCE

Considerations of fungal sensitization and asthma: a response to correspondence

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To the Editor:

We appreciate the comments made by Ogawa, et al. concerning our recent review article, 'The role of allergy in severe asthma'. As suggested by their letter, it is important to recognize the multiple fungal and even yeast bioforms that might be relevant to the increasing severity of asthma in some patients.

We have experience in our own practice of several patients with high levels of IgE, transient infiltrates and severe asthma who were only found to be sensitive to *Alternaria*. We believe that these patients should be diagnosed as allergic bronchopulmonary mycosis associated with *Alternaria*. In fact, in a recent publication by Chowdhary et al., a young, immunocompetent woman was found to have eosinophilia, a high total IgE and a computerized tomography (CT) scan of her thorax that showed an enhancing lesion with surrounding ground glass haziness in the right lower lobe. She underwent lobectomy, and upon histological evaluation, including KOH preps of the sample, she had septate, brownish hyphae, and cultures of these specimens yielded *Alternaria alternata*. Her specific IgE to *Alternaria* was much higher than any other allergen studied. Ultimately, she was treated with glucocorticoids and itraconazole with resolution of her disease [1].

Just as *Alternaria* is an unexpected pathogen with regards to ABPM, we recognize that there are numerous other potential fungal organisms that are equally important. As suggested by Ogawa et al. in their correspondence, some of these fungal pathogens may not be susceptible to typical anti-fungal treatments. Unfortunately, most alternative anti-fungal treatments have sig-

nificant side effects that must be monitored closely if given either intravenously or orally, and systemic steroids are not an acceptable alternative. It is well known that amphotericin B can have significant toxicity when given intravenously. However, there has been evidence that inhaled liposomal amphotericin B does not have the systemic side effects associated with intravenous administration, and, in the case of allergic bronchopulmonary aspergillosis (ABPA), may be equally effective in treatment [2]. Interestingly, other anti-fungals such as voriconazole have also been used as inhaled treatments for invasive pulmonary aspergillosis [3]. To our knowledge, these agents have not been used in this manner for ABPM, but these medications, especially voriconazole, may be useful in the future. Alternatively, posaconazole represents another azole anti-fungal treatment that may be useful for ABPA. Unfortunately, there have been recent reports of resistance to triazoles that are important to recognize [4], which may make it essential both to identify specific fungi and test their sensitivities in vitro prior to starting specific treatment [5–8].

Although we have made significant progress with regards to the diagnosis and treatment of ABPA/M, it is obvious that we need to continue analysing these cases. More research is necessary to determine exactly which fungi are commensal organisms and which are pathogens. Once the pathogens are identified, it will be necessary to develop sensitive immunoCAP assays to determine if patients are truly allergic to these organisms. Ultimately, treatment options will need to be refined according to the specific pathogens present.

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References

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ERRATUM

Immunotherapy with a modified birch pollen extract in allergic rhinoconjunctivitis: clinical and immunological effects

Ceuppens, J. L., Bullens, D., Kleinjans, H., Van Der Werf, J. and the PURETHAL Birch Efficacy Study Group (2009), Immunotherapy with a modified birch pollen extract in allergic rhinoconjunctivitis: clinical and immunological effects. *Clin Exp Allergy* 2009; 39: 1903–9.

In this study, patients were evaluated during the pollen season by a combined symptom and medication score (CIS), and medians of the CIS values are presented (tables 1 and 2, and text) after treatment with verum or placebo.

In the text, percentages are given for the differences between groups (verum treatment compared to placebo),

referring to the tables. The percentages were calculated on the basis of mean CIS values (as originally presented to the journal), instead of the medians, added during editorial review of the manuscript.

Therefore the following corrections should be applied:

	presented:	replace by:
Reduction CIS	24%	45%
Reduction CIS _{eye}	42%	60%
Reduction CIS _{nose}	31%	38%
Reduction CIS _{eye/nose}	32%	45%