Reviewer's report

Title: Inhaled tobramycin solution-associated recurrent eosinophilia and severe persistent bronchospasm in a patient with cystic fibrosis: a case report

Version: 1 Date: 29 September 2006

Reviewer: Felix Ratjen

Reviewer's report:

General

This is a potentially interesting case report on an adverse reaction to inhaled tobramycin in a patient with cystic fibrosis. However, I have a number of concerns about the diagnosis and it is difficult to understand the sometimes unconventional use of therapeutic interventions.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Abstract

The Naranjo scale is not common knowledge and should be explained in the discussion. I would not mention it in the abstract.

Case presentation

Third line should read homozygosity

The treatment strategy at one year of age is somewhat surprising. Dornase alfa was used, even though it is not licensed for this age group and no reason is given, why the patient was treated with cromolyn, a drug that has no place in CF therapy. Was the child wheezing at that point?

The information on the serum level should be deleted, because a level taken after 4 hours is neither peak nor trough and nearly impossible to interpret.

Recurrent wheezing is certainly not an indication for treatment with an anti-Pseudomonas antibiotic, could the authors explain this strategy?

For the hospitalisation at 5 ½ years of age it needs to be clarified whether the eosinophilia was present at admission or developed during the course of treatment. Since he has been off inhaled tobramycin it would be difficult to envision that the eosinophilia (as well as the clinical deterioration with wheezing) was related to tobramycin. Again he was treated with anti-pseudomonas antibiotics despite negative cultures and put on inhaled tobramycin, what was the rationale? Why wasn’t bronchoscopy considered?

Later on a biopsy of the sinus was performed after the CT showed opacification of the maxillary sinuses. Since this is the case in almost all patients with CF, I don’t understand the reason for performing this procedure.

After cessation of tobramycin the patients apparently was treated with systemic steroids for quite a while. Why? If tobramycin was really the cause of the symptoms, symptoms should have stopped after its discontinuation, which apparently was not the case. I remain worried that this child’s problem has not yet been diagnosed.

Discussion

The discussion needs to be expanded and focussed on the case. ABPA should be discussed as a potential diagnosis, the use of bronchoscopy to clarify what is going on in this child and whether he is positive for Pseudomonas as well as the Naranjo scale and its validation should be mentioned.
The issue of dose response to an allergy is not really valid and the argument that eosinophilia was not as pronounced at an early time point should be deleted. Also, the idea of accumulation of tobramycin intra-cellulary is an interesting thought, but not supported by any in vivo data.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No

**Declaration of competing interests:**

'I declare that I have no competing interests'