Reviewer's report

Title: IL-13 expression by blood T cells and not eosinophils is increased in asthma compared with non-asthmatic eosinophilic bronchitis

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Reviewer: Angela Haczku

Reviewer's report:

General comments
The authors investigated peripheral blood T cell and eosinophil expression of intracellular IL-13. Asthmatic and eosinophilic bronchitic patients were compared with normal controls. The authors conclude that T cells from asthmatic patients but not patients with eosinophilic bronchitis produce elevated levels of IL-13. The study is interesting and well written. However the data as presented are somewhat superficial and preliminary. Further support is needed in order to convincingly demonstrate that IL-13 production is critically important to differentiate between allergic asthma and eosinophilic bronchitis.

Major compulsory revisions
1. The authors present the patients’ data in Table 1. These data should be briefly described in the text of the Results.
2. In Table 1 the subjects are divided into normal, mild/moderate and severe asthmatics and eosinophilic bronchitis groups. The authors should present the T cell IL-13 expression data according to this stratification too.
3. The authors mention that eosinophil count had no correlation with airway function (AHR). It would be important to show that airway function correlated (or not) with intracellular IL-13 expression. The actual data should be presented.
4. It appears that severe asthmatics had greater numbers of neutrophils than the rest of the groups. The significance of this finding needs to be explained.
5. Figure 2: The authors should have used normal (non-asthmatic) serum in the same dilution as controls and should show those data too.
6. Page 11 line 186: the rational for treating the cells with IL-17 should be described for the readers.
7. Figure 3: the authors should have included serum samples from the eosinophilic bronchitic patients
8. IL-13, IL-4, IL-5 and GM-CSF are missing from the cytokine profile the authors show in Figure 3. These are very important cytokines because their genes are located in the same cluster on chromosome 5 together and they play a central role in the pathogenesis of asthma as well as of tissue eosinophilia. Measurements of protein levels for these cytokines are necessary in order to demonstrate whether differential expression profile exists for the mainly
pro-eosinophilic (IL-5, GM-CSF) and pro-atopic/asthmatic (IL-4, IL-13) cytokines.

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

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests