Reviewer's report

Title: Transcript levels of different cytokines and chemokines correlate with clinical and endoscopic activity in ulcerative colitis

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Reviewer: Giuliano Ramadori

Reviewer's report:

The authors studied the correlation of mRNA-transcript levels of the chemokines Interleukin-8, IP-10, MRP-14 and MIP-2 and the clinical activity index (CAI) or the endoscopic activity index (EAI) in patients with ulcerative colitis.

They found a significant correlation, concluding that real time PCR quantification of both chemokines and cytokines might be helpful in grading inflammation of intestinal mucosa in patients who have ulcerative colitis, suggesting such a measurement as objective tool to evaluate therapeutic approaches in clinical trials.

Although the reported chemokines have been reported to be elevated in patients of ulcerative colitis earlier, the novelty of the present paper is the correlation of quantitative PCR-results with clinical and endoscopical activity indices.

It is a potentially interesting paper, however there are some points of criticism.

Criticism

Major points:

1) The authors state in the background chapter that there are so far no data concerning the correlation between transcript levels of selected pro-inflammatory cytokines in mucosal biopsies and disease activity indices. This point is not correct. Raddatz et al. did a comprehensive study showing a positive correlation between interleukin-6 mRNA transcript levels and the colitis activity index in patients with pancolitis (Raddatz et al., European Journal of Gastroenterology and Hepatology, 2005). This study should be mentioned and discussed.

2) The authors state that 49 biopsies from 27 different patients were examined and that if patients were included twice, biopsies were taken at two different time points.

   Have samples been taken from different localisations within one patient, e.g. comparing inflamed and non inflamed mucosa at one time point?

3) It should also be mentioned if patients had a pancolitis, a left sided colitis or proctitis.

4) Is there any information about the intra-assay variability or the variability of mRNA-expression in samples taken from two different inflamed regions within the same patients?

5) If the study included patients with both pancolitis and distal colitis...
there any difference with regard to clinical activity? Eventually a sub group analysis should be performed.

6) There is no information about the premedication of the patients. If there was any premedication it might have had an influence of mRNA-expression. Where all the patients treatment naïve?

7) The authors state in the results that a clinical and endoscopic improvement led to decreased chemokine levels.

It becomes not entirely clear if this is mend for each individual patient or for the whole collective. This point should be clarified. It may be helpful to correlate delta-mRNA to delta CAI.

Minor points:

1) In some figures a positive correlation is hardly detectable visually because the Y-axis is too compressed. Maybe it would be better to omit some outliners (CAE versus MRP -14) or eventually to decompress the axis.

2) The CXC nomenclature of chemokines should be used instead or at least mentioned in parenthesis.

**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:** Yes, but I do not feel adequately qualified to assess the statistics.