

Simple, inexpensive and objective tools for the assessment of mucosal inflammation: fecal markers

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UC and CD, the two major forms of IBD are chronic, idiopathic inflammatory conditions of the gut with a typically relapsing and remitting course. A prominent feature in mucosal biopsies from patients with active IBD is infiltration by neutrophil granulocytes. Moreover, the number of eosinophil granulocytes is also increased in IBD. Upon activation, neutrophils release Calprotectin and MPO, two major neutrophil proteins, while eosinophils release the protein, EPX. Previous studies have shown that fecal markers may be used to differentiate IBD from functional gastrointestinal disorders, but the usefulness of these markers in monitoring therapy of patients with active relapse of IBD needs further evaluation.

A research article to be published on September 28, 2008 in the *World Journal of Gastroenterology* addresses this question. A research team led by Associate professor M Carlson, Department of Medical Sciences, Uppsala University, evaluated patients with previously diagnosed UC or CD before starting treatment, and after 4 and 8 week of treatment. Treatment outcome, based on clinical activity and endoscopic findings in UC patients, and clinical activity in CD patients, was evaluated together with fecal levels of FC, and compared with fecal MPO and EPX. Fecal samples were analyzed for FC with ELISA, and MPO and EPX with RIA.

The authors have previously reported that elevated fecal levels of EPX and MPO may be useful in monitoring therapy in UC. The present study confirmed previous findings that patients with a relapse of IBD had elevated fecal markers. Interestingly, this study also demonstrated that normalized FC level may be used as a surrogate marker for successful treatment outcome in IBD patients. However, patients with persistently elevated FC levels need further evaluation. FC and

MPO provided better assessment of treatment outcome than EPX in patients with UC, whereas EPX has the potential to identify treatment outcome, especially in patients with CD. These findings suggest that fecal markers can be used as surrogate markers for successful treatment outcome in IBD patients. Fecal markers are simple, inexpensive and objective tools for the assessment of mucosal inflammation.

Reference: Wagner M, Peterson Ch, Ridefelt P, Sangfelt P, Carlson M. Fecal markers of inflammation used as surrogate markers for treatment outcome in relapsing inflammatory bowel disease. *World J Gastroenterol* 2008; 14(36):5584-5589
www.wjgnet.com/1007-9327/14/5584.asp

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