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Commentary

Fecal Calprotectin Levels in Patients with Positive Anti-transglutaminase Antibodies and Patients on a Gluten Free Diet

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ABSTRACT

To arrive at the diagnosis of certain inflammatory bowel diseases and establish the severity of the picture, invasive approach is routinely used for the patient through colonoscopy, contrast radiography, among others. Due to the logical resistance generated by submitting to practices of this type and considering that it is difficult to harmonize clinical, endoscopic and histological result, it was imperative to have a marker that would be part of a noninvasive test and as objective as possible and reproducible for evaluate this type of pathology.

Keywords: Fecal calprotectin; Anti-transglutaminase IgA; Deaminated anti-gliadin IgA; Interleukin-6

ABOUT THE STUDY

Fecal calprotectin has established itself in recent years as a useful marker of gastrointestinal pathologies since the presence of multiple proteins and enzymes released by neutrophilic granulocytes during the inflammatory process was a good starting point called calprotectine present in feces where its concentrations is much higher when compared to plasma levels (approximately 6 times). It has a high affinity for calcium and zinc, which increases its stability, remaining unchanged for up to7 days at room temperature. Its immunological activity is direct antimicrobial, as well as mobilizing and activating granulocytic leukocytes (especially neutrophils).

Various studies show that there is an association between calprotectin levels and the degree of inflammation, which is a why it can be used to monitor response to treatment and predict risk of relapse.

Another disease characterized by histopathological alterations in the mucosa of the small intestine is Celiac Disease (CD), of an immune mechanism, triggered by gluten and other prolamines, which affects genetically susceptible individuals. Celiac disease is characterized by the presence in patients, with greater or lesser clinical expression, of antibodies against the enzyme tissue transglutaminase (Ac TGt) and of antibodies against the delaminated forms of gliadin peptides (toxic fraction of gluten rich in glutamine) (AGA).

The objective of this study was to determine the levels of Fecal Calprotectin (FCP), interleukin-6 (IL-6) and C-Reactive Protein (CRP) in three groups of patients: with de novo diagnosis of celiac disease, with previous diagnosis and Gluten-Free Diet (GFD) and a control group. Samples were collected from 79 patients between 18 and 65 years old. In all cases, FCP, IL-6 and RCP were determined as markers of inflammation and anti-transglutaminase IgA and delaminated anti-gliadin IgA and IgG antibodies as serological markers. Significantly more increased FCP values were found in the de novo group (124.06 µg/g) than in the group with DLG (23.61 µg/g) and the control group (16.91 µg/g). No differences were found between the group with GFD and the negative. The same trend was observed for IL-6 with values in the de novo group of 2.39 µg/dL, 1.74 µg/dL in the group with gluten free diet and 1.41 µg/dL in the negative control. No significant differences were found in the analysis of RCP results. Excellent sensitivity (98.0%) and specificity (96.6%) were found in the capability of the FCP to differentiate anti-transglutaminase IgA values higher or lower than the cut-off point when the Youden index was estimated. The FCP could be considered a possible sensitive marker to indicate intestinal inflammation in a non-invasive manner in celiac disease.

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