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Laboratory News

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NEW TEST: FECAL CALPROTECTIN, A MARKER OF INFLAMMATORY BOWEL DISEASE

Joyce Flanagan, PhD, Section Head, Clinical Esoteric Laboratory

Effective April 16, 2018, **Fecal Calprotectin,** a marker of inflammatory bowel disease will be offered by Marshfield Labs at Marshfield Center laboratory.

BACKGROUND

Calprotectin is a calcium and zinc binding protein belonging to the S100 family and expressed primarily by neutrophil granulocytes, where it accounts for 5% of total proteins and 60% of cytoplasm proteins. When inflammatory processes occur, the neutrophils are activated, leading to release of cellular proteins, including calprotectin. In bowel inflammation, the released calprotectin is absorbed by the fecal material before it is excreted from the body. The amount of calprotectin present in the feces is proportional to the number of neutrophils within the gastrointestinal mucosa, and can be used as in indirect marker of intestinal inflammation.

Fecal calprotectin is most frequently used as part of the diagnostic evaluation of patients with suspected inflammatory bowel disease (IBD). In IBD patients, i.e., patients affected by ulcerative colitis, Crohn's disease, and so-called indeterminate colitis, the calprotectin level is generally very high. Elevated concentrations of fecal calprotectin may be useful in distinguishing IBD from functional gastrointestinal disorders, such as irritable bowel syndrome (IBS). In IBS subjects, the calprotectin level is lower when compared to patients with active IBD. However, an increase in fecal calprotectin is not diagnostic for IBD, as other disorders such as celiac disease and other gastrointestinal infections may also be associated with neutrophilic inflammation. When used for a differential diagnosis between IBD and IBS, at cutoff of 50 µg/g, fecal calprotectin has sensitivity and specificity both of approximately 85%, negative predictive value of approximately 95%, and positive predictive value of approximately 90%.

METHOD

The QUANTA Lite Calprotectin assay is an enzyme-linked

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immunosorbent assay with colorimetric detection based on the use of polyclonal and monoclonal antibodies against calprotectin. The intensity of the color is proportional to the amount of conjugate bound, and thus to the amount of captured calprotectin. The concentration of calprotectin in the sample is calculated using the kit-provided calibrators (INOVA Diagnostics, San Diego, CA).

TEST INFORMATION

- Test Name: Calprotectin
- Test Code: CALP
- Specimen Requirement: 1 to 5 g stool in a screw-top clean container.
  No preservative.
  Keep frozen after collection.
- Reference Values: < 50 μg/g (Normal), IBD unlikely (NPV of 96.4%).
  50.0 – 120 μg/g (Borderline), repeat test in 6 weeks.
  > 120 μg/g (Abnormal), follow-up confirmatory IBD testing recommended.
- Performing Lab: Marshfield Center
- Availability: Monday and Thursday
- CPT Code: 83993

CONTACT

For clinical and technical information, contact:

- Dr. Joyce Flanagan, Clinical Chemist
- E-Mail: flanagan.joyce@marshfieldclinic.org
- Phone number: 800-222-5835 or 715-221-6310 (direct)

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