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Abstract Discussion Forum (0)

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A SINGLE TEST STRATEGY USING SPOT FECAL BILE ACID TEST MAY BE A FEASIBLE STRATEGY FOR THE DIAGNOSIS OF BILE ACID MALABSORPTION

Society: AGA**Track:** Functional GI and Motility Disorders**Author(s) and Affiliation(s):**

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Background: Bile acid malabsorption (BAM) is often missed in patients with chronic diarrhea as diagnostic tests are technically challenging and not available widely. Quantitative estimation of faecal bile acids (FBA) in a single stool sample has been reported recently for the diagnosis of BAM, and may be easily applied.

Patients and Methods: We performed a pilot observational cross-sectional study to estimate the optimal FBA cut-point for the diagnosis of BAM, using the IDK[®] Bile Acid test, a spectrophotometry-based assay for measuring total stool bile acids. We estimated FBA concentrations in healthy adults (n=100; negative controls) and patients with known ileal Crohn's disease (n=67; positive controls), generating a receiver-operator-characteristics(ROC) curve for assessing its diagnostic accuracy. FBA levels were then assessed in 3 groups of patients namely diarrhea-predominant irritable bowel syndrome (IBS-D) and functional diarrhea (FD) (n=100), post-cholecystectomy (n=100) and ileal tuberculosis (n=33).

Results: Optimal cutpoint for FBA was identified at 2.8 $\mu\text{mol/g}$ (Sensitivity:89.5%; specificity:92.0%; area under ROC:0.959 (95%CI: 0.929-0.989)), with median FBA in healthy controls [1.5 $\mu\text{mol/g}$ (IQR:0.7-2.2)] being significantly lower than patients with ileal Crohn's disease [6.0 $\mu\text{mol/g}$ (IQR:4.7-8.0); p<0.001]. Median FBA in patients with IBS-D/FD, post-cholecystectomy and those with ileal tuberculosis were 2.0 $\mu\text{mol/g}$ (IQR: 1-2.8), 3.4 $\mu\text{mol/g}$ (IQR: 1.7-5.3) and 3.0 $\mu\text{mol/g}$ (IQR: 2.2-4.6), respectively. Overall 21%, 57% and 54.5% of patients with IBS-D/FD, post-cholecystectomy and ileal tuberculosis had BAM.

Conclusions: We demonstrate feasibility of quantitative estimation of fecal bile acids in a single stool sample to diagnose BAM. Measurement of fecal bile acids may be a promising tool for diagnosing BAM in patients with chronic diarrhea, especially in low-resource settings where access to other better established tests is limited.

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