

Does This Patient Have Irritable Bowel Syndrome?

EBEM Commentator Contact

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RATIONAL CLINICAL EXAMINATION REVIEW SOURCE

This is a rational clinical examination abstract, a regular feature of the *Annals' Evidence-Based Emergency Medicine (EBEM)* series. Each features an abstract of a rational clinical examination review from the *Journal of the American Medical Association* and a commentary by an emergency physician knowledgeable in the subject area.

The source for this rational clinical examination review abstract is: Ford AC, Talley NJ, Veldhuyzen van Zanten SJ, et al. Will the history and physical examination help establish that irritable bowel syndrome is causing this patient's lower gastrointestinal tract symptoms? *JAMA*. 2008;300:1793-1805. The *Annals' EBEM* editors assisted in the preparation of the abstract of this rational clinical examination review.

OBJECTIVE

To systematically review the accuracy of the history and physical examination to diagnose irritable bowel syndrome.

DATA SOURCES

A structured search of the literature was conducted with MEDLINE (1950 to June 2008) and EMBASE (1980 to June 2008). Reviewing the reference lists of included articles identified additional articles.

STUDY SELECTION

Two reviewers independently selected studies for inclusion. Disagreement was resolved by consensus. Only prospective studies of undifferentiated cohorts of adults were included. The minimum sample size was 50 patients. The functional diagnosis of irritable bowel syndrome was compared with a reference standard of colorectal carcinoma, inflammatory bowel disease, microscopic colitis, diverticular disease, and colorectal adenoma diagnosed by colonoscopy, barium enema, or computed tomographic colography.

DATA EXTRACTION AND ANALYSIS

A single author extracted data. Included articles were graded for methodological quality. Five studies (n=1,706) used a

blinded comparison with an independent reference standard, consecutively enrolling greater than 200 patients. Two studies (n=149) used a similar methodology but enrolled fewer than 200 patients. Two studies (n=412) also used a similar methodology but enrolled nonconsecutive patients. Finally, 1 study (n=88) used a dependent reference standard among a convenience sample.

The sensitivity, specificity, positive likelihood ratio (LR), negative LR, and their 95% confidence intervals were calculated for individual symptoms or combination of findings. Pooled data were analyzed with a random-effects model.

MAIN RESULTS

None of the summary LRs for individual symptoms achieved diagnostic significance (ie, positive LR >2, negative LR <0.5) as a predictor of irritable bowel syndrome, including lower abdominal pain, feeling of incomplete evacuation, more frequent stools at onset of pain, pain relieved by defecation, passage of mucous per rectum, or patient-reported visible abdominal distension.

The summary LRs for the various clinical decision rules are described in Table 1. Table 2 lists the individual criteria for each clinical decision rule.

CONCLUSIONS

Individual symptoms have limited accuracy for diagnosing irritable bowel syndrome in patients with lower gastrointestinal tract symptoms. The accuracy of various clinical decision rules was only modest.

Table 1. Summary LRs for clinical decision rules.

Criteria	No.	Number of Studies	Positive LR (95% CI)	Negative LR (95% CI)
Manning	509*	4	2.7 (0.92–7.8) [†]	0.33 (0.11–1.0) [†]
Rome I	602	1	4.8 (3.6–6.5)	0.34 (0.29–0.41)
Kruis	854*	3	5.9 (2.0–17.0)	0.30 (0.18–0.49)

CI, Confidence interval.

*Excluding original derivation study.

[†]Not statistically significant.

Table 2. Criteria for clinical decision rules.

Clinical Decision Rule	Criteria	Score
Manning	More frequent stools with onset of pain Looser stools with onset of pain Passage of mucus per rectum Feeling of incomplete emptying Patient-reported visible abdominal distension	≥3 Criteria
Rome I	Abdominal pain or discomfort relieved with defecation or associated with a change in stool frequency or consistency ≥2 Of the following on at least 25% of occasions or days in the last ≥3 mo: Altered stool frequency Altered stool form Altered stool passage Passage of mucus per rectum Bloating or distension	All criteria present
Kruis	Patient-reported symptoms Abdominal pain, flatulence, or bowel irregularity Symptoms >2 y Description of abdominal pain as “burning, cutting, very strong, terrible, feeling of pressure, dull, boring, or ‘not so bad’ ” Alternating constipation and diarrhea Physician findings Abnormal symptoms or signs pathognomonic for any diagnosis other than irritable bowel syndrome Erythrocyte sedimentation rate >20 mm/2 h Leukocytosis >10,000 cells/μL Anemia Impression by the physician that the patient’s history suggests blood in the stools	Total >43 34 16 23 14 -47 -13 -50 -98 -98

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COMMENTARY: CLINICAL IMPLICATION

More than 40% of the population experiences abdominal pain, bloating, or changes in bowel habit.¹ Many of these patients will seek a diagnosis and treatment in an emergency department (ED). In fact, it has been estimated that 3% of all primary care visits are related to irritable bowel syndrome.² The diagnosis of a functional condition is not the primary concern of an emergency physician. Rather, the diagnosis or exclusion of life-threatening causes of abdominal complaints is the focus. The confident identification of an alternative diagnosis such as irritable bowel syndrome can therefore be extremely helpful while also directing treatment and follow-up, preventing unnecessary referrals and reducing further testing.

Unfortunately, this systematic review reveals that no specific symptom reliably makes or excludes the diagnosis of irritable bowel syndrome. Specialty societies advocate the use of clinical decision rules to diagnose irritable bowel syndrome partly to help prevent excessive investigations designed to exclude organic pathology.^{3,4} Although the Rome I and Kruis clinical decision rules both appear to be diagnostically helpful and therefore potentially contributory, neither demonstrates a positive or negative LR capable of independently diagnosing or excluding irritable bowel syndrome.

The clinical decision rules included in this study have additional methodological issues for consideration. First, the summary results of both the Kruis and Manning clinical decision rules included data from poor-quality trials (eg, nonconsecutive enrollment, dependent reference standard). Second, when only validation studies of the clinical decision rules were included in the summary results (as reported in this review), the Manning clinical decision rule did not achieve statistical significance. Third, the Rome clinical decision rule is based on a single study from a British gastroenterology clinic, which raises issues of generalizability.⁵ In fact, all of the study environments in this review were either internal medicine or gastroenterology clinics, suggesting a strong risk of selection bias, as well as a population and risk profile likely to be quite different from those of patients treated in EDs for similar complaints. Finally, the complexity of the Kruis clinical decision rule may inhibit its utility in many care environments.

TAKE-HOME MESSAGE

No individual symptom or clinical decision rule has been shown to reliably make or exclude the diagnosis of irritable bowel syndrome.

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