PAPERS AND ORIGINALS

Towards positive diagnosis of the irritable bowel

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Summary and conclusions

A questionnaire to establish the presence of 15 symptoms thought to be typical of the irritable bowel syndrome (IBS) was given to 109 unselected patients referred to gastroenterology or surgery clinics with abdominal pain or a change in bowel habit or both. Review of case records 17-26 months later established a definite diagnosis of IBS in 32 patients and of organic disease in 33. Four symptoms were significantly more common among patients with IBS—namely, distension, relief of pain with bowel movement, and looser and more frequent bowel movements with the onset of pain. Mucus and a sensation of incomplete evacuation were also common in these patients. The more of these symptoms that were present the more likely was it that the patient's pain or altered bowel habit, or both, was due to IBS.

We conclude that a careful history can increase diagnostic confidence and reduce the amount of investigation in many patients with chronic abdominal pain.

Introduction

Although irritable bowel syndrome (IBS) is by far the most common problem in gastroenterological practice,[1-3] there are no tests for confirming its diagnosis. Abdominal pain, constipation, and diarrhoea are the main symptoms,[4] but they are also common in organic abdominal disease. Thus the diagnosis of IBS is one of exclusion. While organic disease is being ruled out many patients suffer unproductive investigation and referrals; some even undergo laparotomy when pain is a prominent feature.[5 6] Delay in diagnosis and in giving appropriate treatment contributes to patients' anxiety and frustration.

An experienced gastroenterologist often feels he can definitively diagnose the irritable bowel from the history but might find it difficult to cite objective evidence for such a conclusion. Certain minor symptoms have been suggested as being indicative of the irritable bowel but with little agreement and no statistical support. Recent reviews have stressed mucus, flatus, scybala, and relief of pain after defecation but have given no information on the incidence of these features in organic disease.[6-8] The purpose of this study was to determine the incidence of alleged IBS-associated symptoms in patients with abdominal pain or altered bowel habit, or both, in the hope of identifying symptoms that might help doctors distinguish IBS from organic disease.

Patients and methods

Between August 1975 and May 1976, 109 unselected gastroenterology or surgical outpatients were identified from the referral letter as complaining of abdominal pain, constipation, or diarrhoea. Before seeing the consultant at their initial visit the patients were given a questionnaire by one of us, which covered the occurrence during the previous 12 months of 15 symptoms thought to be characteristic of the irritable bowel (table I). Seventeen to 26 months later the 106 case notes that could be traced were reviewed independently by two gastroenterologists to establish a final diagnosis of the original complaints. At this review it was verified that adequate investigations had been carried out. The delay ensured no serious misdiagnosis. The reviewing gastroenterologists did not know the results of the questionnaires. A definite diagnosis was reached in 79 of the 106 patients. Fourteen patients with diverticular disease of the colon were excluded because their symptoms might be regarded as either organic or functional.[9] This left 32 patients with IBS and 33 with organic disease. Of the patients with organic disease, 13 had a duodenal ulcer; five inflammatory bowel disease; four gastro-oesophageal reflux; two gastric ulcer, gallstones, and carcinoma of the colon; and five miscellaneous gastrointestinal disorders. Pain was admitted to by all but one of the patients with IBS and all but three of

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TABLE I—*Incidence in patients with organic disease and irritable bowel syndrome (IBS) of 15 symptoms thought to be common in IBS. (Figures are numbers of patients with symptom/total number of patients)*

Symptom	Organic disease	IBS	Significance
Looser stools at onset of pain	8/30*	25/31*	$P<0.001$
More frequent bowel movements at onset of pain	9/30	23/31	$P<0.01$
Pain eased after bowel movement (often)	9/30	22/31	$P<0.01$
Visible distension	7/33	19/32	$P<0.01$
Feeling of distension	15/33	23/32	$0.05<P<0.1$
Mucus per rectum	7/33	15/32	$0.05<P<0.1$
Feeling of incomplete emptying (often)	11/33	19/32	$0.05<P<0.1$
Bowel movement before breakfast	10/24†	10/22†	NS
Nocturnal bowel movement	9/33	14/32	NS
Urgency of defecation	18/33	23/32	NS
Pain worse after bowel movement	2/30	2/31	NS
Pain eased with flatus	14/30	14/31	NS
≥2 bowel movements between meals	10/33	15/32	NS
Harder stools at onset of pain	4/30	1/31	NS
Less frequent bowel movements at onset of pain	2/30	1/31	NS

*Pain was a feature in 30 of the 33 patients with organic disease and 31 of the 32 with IBS.
†Breakfast eaten by only 24 and 22 patients in the two groups respectively.

those with organic disease. The results of the questionnaire completed about two years before were transferred to punch cards and sorted mechanically. The incidence of each symptom was compared between the two groups of patients, using χ^2 analysis with Yates's correction when necessary.[10]

Results

None of the 15 symptoms tested was more common in patients with organic disease (see table I). Four were clearly more common in patients with IBS—namely, abdominal distension as evidenced by tight clothing or visible appearance; pain relief with bowel action; more frequent stools with the onset of pain; and looser stools with the onset of pain. When these four symptoms were combined there was considerable discrimination between the two groups (table II). All but three (91%) of the patients with IBS had two or more symptoms compared with only 10 (30%) of the patients with organic disease.

TABLE II—*Numbers of patients with organic disease and irritable bowel syndrome (IBS) having up to four of the following symptoms: pain relief after defecation, more frequent and looser stools after onset of pain, and distension*

No of symptoms per patient:	0	1	2	3	4
Patients with organic disease (n=33)	17	6	5	3	2
Patients with IBS (n=32)	2	1	9	10	10

Three or four of these features were present in 20 (63%) of the patients with IBS and in only 5 (15%) of those with organic disease; while all four symptoms were absent in only two (6%) of those with the IBS but in 17 (52%) of those with organic disease.

Two further symptoms—namely, passage of mucus and the sensation of incomplete evacuation—were more common in the patients with irritable bowel, but the difference was not quite significant. When these two symptoms were combined with the four listed above the discrimination between the two groups of patients was increased. All six symptoms were present in six of the patients with IBS (19%) but in only one (3%) with organic disease (table III); while 14 of the patients with organic disease (42%) had none of these symptoms, compared with only one of the patients with IBS (3%).

TABLE III—*Numbers of patients with organic disease and IBS having up to six of the symptoms given in table II plus mucus and feeling of incomplete evacuation*

No of symptoms per patient:	0	1	2	3	4	5	6
Patients with organic disease (n=33)	14	4	7	4		3	1
Patients with IBS (n=32)	1	1	3	11	3	7	6

Discussion

Of the many symptoms that have been suggested as being characteristic of IBS, we found that only distension, relief of pain with a bowel movement, and more frequent and looser stools at the onset of pain were significantly more common in IBS than organic disease. Three of these four symptoms are pain related and therefore relevant only to the painful type of IBS. This is much more common, however, than the painless diarrhoea type.[4] The more of these four symptoms that are present the more likely is the diagnosis to be IBS. When mucus and feelings of incomplete evacuation are present as well the patient is most unlikely to have organic disease. In this series the only exception was a patient with severe total ulcerative colitis, where the diagnosis of organic disease was obvious from other features of his history.

In our experience doctors seldom ask about any of these six symptoms. Nevertheless, our results suggest that they can help towards the confident diagnosis of IBS in patients presenting with chronic abdominal pain. More detailed history taking should prevent unnecessary investigation and referrals.

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ONE HUNDRED YEARS AGO M Gubler pointed out at a meeting of the French Association for the Advancement of Science an unusual variety of deformity and lesion of the tendons, which he had observed for the first time in a patient suffering from lead-poisoning. This lesion consists in a sort of plastic and fungoid synovitis, seated in the sheath of the extensors on the dorsal surface of the hand. He thought it was rather to be associated with nutritive disorder caused by lead-paralysis, than with the action of the poison itself. The second case, which he had observed in a patient suffering from cerebral paralysis of saturnine origin, confirmed him in this idea. It was, however, difficult not to be reminded of the disease described by Garrod under the name of saturnine gout; and the necropsy which he had occasion to perform led Mr Gubler to satisfy himself that there were neither tophic nor uric acid products, but that the case was one of special tendinous lesion. Legros, who examined the patient, recognised necrosis of the primitive tendon sheathed in a tendinous tissue of new formation. There was here an analogy with the invaginated sequestrum in the case of central necrosis. M Gubler has seen this deformity after paralysis *à frigore* in a coachman who had suffered from the effects of cold rain falling on the hands. From these various facts, M Gruber thought it might be concluded that the disorder was one of nutrition, due to paralysis, from whatever cause arising. M Verneuil believed rather in the action of the poison than in nutritive disorder due to paralysis. He laid stress on the fact that similar disorders occurred in syphilis without prior paralysis. (*British Medical Journal*, 1878.)