Original Article

WOMEN WITH IRRITABLE BOWEL SYNDROME ACCORDING TO ROME II CRITERIA IN JORDAN

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ABSTRACT

Objectives: To characterize the possible risk factors, clinical features and outcome for women referred with abdominal pain and who subsequently underwent investigations including colonoscopy and were normal.

Methodology: Analysis of the records of 600 women with abdominal pain referred to G.I clinics in three hospitals related to the Royal Medical Services in Jordan between January 2001 and April 2006 who subsequently underwent variable gastrointestinal investigations. Subjects were divided according to results as women with underlying cause for their abdominal pain and women with normal investigations and considered as irritable bowel syndrome (IBS) using Rome II criteria.

Results: Four hundred twenty two (70%) women had normal investigations and 178 (30%) had underlying cause. Social restrictions (family or cultural limitations) were the only possible risk factors more frequently encountered in women with irritable bowel syndrome group (P<0.05). Abnormal stool form or passage was the most common associated symptoms. Two hundred thirty two(55%) patients with IBS continued to visit the clinic because of abdominal pain, 122 (53%) patients continued to take medications and 37 (16%) patients were subsequently admitted to hospital because of severe abdominal pain of whom 4 (1.6%) were found to have new underlying cause.

Conclusions: In women referred with abdominal pain, a diagnosis of irritable bowel syndrome was common in Jordan. A hidden pathology such as celiac disease, microscopic colitis or Crohns disease, although rare may still be found in patients labeled as irritable bowel syndrome and search for these and other possible diagnoses is to be considered when appropriate.

KEYWORDS: Pain, Women, Irritable Bowel Syndrome, Jordan.

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INTRODUCTION

Irritable bowel syndrome is a prevalent functional gastrointestinal disorder characterized by abdominal pain or discomfort associated with abnormal patterns of defecation.[1] Although not a cause of significant mortality, irritable bowel syndrome has been shown to be associated with significant and detrimental effects on the health-related quality of life.[2,3] Definitive treatment of this disorder remains elusive. Although a variety of pharmacological agents have been utilized to treat irritable bowel syndrome, few have been subject to rigorous testing.[4]

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Epidemiologic studies of irritable bowel syndrome have described gender differences, with greater number of women than men.[5] Women have two-four fold increased prevalence of IBS and are more likely to seek health care. Irritable bowel syndrome is a major cause of abdominal pain and an important cause of disability in women.

Several possible mechanisms for these gender differences have been proposed, including the action of sex hormones,[6,7] differences in psychological symptoms[8] and differences in biobehavioral responses to stress.[9] In addition, human studies of gender differences with regard to response to experimental pain indicate that women tend to exhibit lower pain thresholds, greater ability to discriminate, higher pain ratings, and less tolerance of noxious stimuli than do men, although these differences are inconsistently observed, relatively minor and exist only when certain forms of stimulation are utilized.[10]

METHODOLOGY

We carried out a retrospective review of the medical records of 600 women, age between 18-65 years, who were seen at the internal medicine and gastroenterology clinics in three hospitals related to the Royal Medical Services in Jordan (King Hussein Medical Center, Prince Rashid Hospital, and Prince Ali Hospital) during the period from January 2001 to April 2006. All patients had their abdominal pain for at least six months prior to their referral. Detailed history was taken, and clinical examination was performed. All women studied, underwent different investigations searching for an underlying cause for their abdominal pain including complete blood picture, liver and kidney function tests, stool analysis, urine analysis, celiac serology and abdominal ultrasound examination. A considerable number had gastroscopy. Colonoscopy with random biopsies was performed in 32 patients (8%). Patients were divided into two groups according to the presence or absence of an underlying cause identified by investigations. A diagnosis of irritable bowel syndrome (IBS) was made using symptom-based criteria (Rome II Diagnostic Criteria) with normal investigations. The Rome II criteria for diagnosis of IBS include the presence of abdominal pain or discomfort for 12 weeks (need not be consecutive) in the preceding 12 months and at least two of the following three features regarding symptoms: (1) relieved with defecation, (2) associated with change in frequency of defecation, and /or (3) associated with a change in form or appearance of stool.

Symptoms that are supportive of the diagnosis of IBS include:

1. Abnormal stool frequency, which may be defined as greater than three bowel movements per day or fewer than three bowel movements per week.
2. Abnormal stool form (lumpy/hard or loose/watery).
3. Abnormal stool passage (straining, urgency or feeling of incomplete evacuation).
4. Passage of mucus.
5. Bloating or feeling of abdominal distension.

Exclusion criteria were:

1. Women younger than 18 years old.
2. Women with abdominal pain less than three months.
3. History of familial Mediterranean fever.
4. History of abdominal surgery.
5. Diabetics.
6. Patients with known gastrointestinal diseases.

The presence of possible risk factors as a family history (first degree relative with IBS), low income, defined as between 200-500 JD (300-700 US dollars) per family per month, low education defined as the achievement of the 6th primary class or less, cancer phobia, social restrictions and history of gastroenteritis were sought. Events during follow up, such as continued abdominal pain, further treatment, hospital readmission and new underlying cause were recorded.

Social restrictions were defined as the family or the cultural limitations that some families impose on women which may reach some times to the degree of social oppression and/

or deprivation. Chi-Square was used for statistical analysis and p-value was considered significant if less than 0.05.

RESULTS

Of the 600 female who underwent investigations, 178 (30%) had underlying cause for their abdominal pain. The most common underlying cause was peptic ulcer disease and pyelonephritis as shown in Table-I. Four hundred twenty two (70%) had normal investigations including complete blood picture, liver and kidney function tests, stool analysis, urine analysis, abdominal ultrasound examination, gastroscopy, colonoscopy and considered as having IBS employing the Rome II criteria. Social restrictions were more frequently encountered in women diagnosed as irritable bowel syndrome than in women with underlying cause for their abdominal pain (90% v 21%; P< 0.05). Low income and low education were common findings in both groups of patients. Low income and cancer phobia were not significant findings in women diagnosed as irritable bowel syndrome as shown in Table-II. Symptoms that were supportive of the diagnosis of IBS in our patients are shown in (Table-III). Abnormal stool form (92%) or passage (82%) were the most common symptoms associated with the abdominal pain in women with IBS.

Follow up details were obtained on 232 (55%) patients of those diagnosed to have IBS, because they continued to complain of abdominal pain with a mean follow up time of seven months after diagnosis. One hundred twenty two (53%) patients of them continued to take different medications. Thirty seven (16%) patients were admitted to hospital because of severe abdominal pain and eighteen (7.8%) found to have a new underlying cause for their abdominal pain; eleven of them had celiac disease, seven had crohn's disease and two had microscopic colitis as shown in (Table-IV).

Table-I: Women referred with abdominal pain and found to have underlying cause. (n=178)

Underlying Causes of abdominal pain	*Number*	*(%)*
Peptic ulcer	77	43
Pyelonephritis	47	26
Biliary colic	22	12.8
Diverticulitis	13	7
Pancreatitis	5	3
Salpingitis	2	1
Inflammatory bowel disease	11	6

DISCUSSION

Irritable bowel syndrome (IBS) is the most common gastrointestinal disorder diagnosed in clinical practice all over the world. Because there is no biological marker to confirm the diagnosis, IBS has remained a challenge for clinicians and patients alike for decades. In the past, IBS was a "waste-basket" diagnosis given to patients with unexplained gastrointestinal symptoms. It was considered to be "the diagnosis of exclusion" when extensive work-up for organic disease yielded no diagnosis. In recent decades, it was recognized that patients with IBS experienced a constellation of specific gastrointestinal symptoms. Manning criteria were described in 1978,[11] followed by Rome-I in 1989[12] and Rome-II criteria in 1999.[13] Rome-I and Rome-II criteria were initially developed by multinational working groups to provide a framework for the selection of patients in diagnostic and therapeutic trials. These crite-

Table-II: Risk factors in women with abdominal pain.

	Women with IBS (%) (422 PTS)	*Women with underlying cause (%) (178 PTS)*
Social restrictions	380 (90)	37(21)
Low income	366 (87)	127 (72)
Low education	343 (81)	148 (89)
Cancer phobia	197 (47)	134 (76)
History of gastroenteritis	74 (18)	20 (12)
Family history of IBS	40 (9)	10 (5)
Very low income	32 (8)	38 (22)

Table-III: Symptoms supportive of the diagnosis of IBS

Symptoms	*No. (422)*	*(%)*
Abnormal stool form	389	(92%)
Abnormal stool passage	249	(59%)
Bloating	335	(84%)
Fatigue	318	(75%)
Abnormal stool frequency	154	(36%)
Passage of mucus	145	(34%)
Urinary frequency	50	(12%)

Table-IV: Outcome in 232 patients who continued to visit the gastroenterology clinic after being diagnosed as IBS.

Outcome of women diagnosed IBS	*Number*	*(%)*
Absent follow up	190/422	(45%)
Continued abdominal pain	232/422	(55%)
Continued on treatment	122/232	(53%)
Admission to hospital for abdominal pain	37/232	(16%)
Underlying cause:	20/232	(8%)
Celiac disease	11	
Crohn's disease	7	
Microscopic colitis	2	

ria are being continuously modified as we gain new knowledge about functional bowel disorders. Recently published diagnostic guidelines[14,15] recommend using symptom-based criteria in making the diagnosis of IBS in clinical practice. Using these criteria in conjunction with "alarm features" allows the physician to minimize the extent of diagnostic testing needed to make the diagnosis of IBS with confidence. In our study, even when women were diagnosed as IBS based on Rome II diagnostic criteria, different investigations had been done, either because the patients were demanding, or the physician himself wanted to reassure them by ruling out any possibility of underlying causes. Although establishing a diagnosis of IBS may be reassuring for the patient's physician, such a diagnosis does little to relieve the symptoms experienced by these patients in our locality, who, in the absence of an alternative diagnosis, continue to place a considerable drain on health care resources.

Possible risk factors like social restrictions, abnormal stool passage and form and the results of investigations were of value in distinguishing women with IBS from those with organic underlying cause. Studies examining the importance of risk factors in the development of IBS have shown that low income, history of gastroenteritis, and a family history of IBS [16, 17] are all important in predicting the development of IBS. Other than social restrictions, risk factors for IBS in women were poor discriminators in our study. The reason why only social restrictions discriminated between women with and without IBS is uncertain. However, those patients with social restrictions may find some relief by coming to hospital and gaining more care and attention from other family members. Low income was significantly more common (22%) in women with underlying organic cause which is comparable to the low income rate in the country. IBS patients on the other hand had lower low income rate (8%). Our explanation why low income is less prevalent in patients with IBS is that this group of population may not have the time to complain or seek medical care, because they are busy in how to take care of their family members.

Our data indicate that 55% of patients with normal investigations continued to visit the gastroenterology clinic because of continued abdominal pain, 53% continued to take different medications, and 45% missed follow up, either because they were satisfied with the normal investigations or for other unknown reasons. Perhaps this is not surprising since; (1). The cause of the patient's symptoms may remain undiagnosed, as celiac disease, microscopic colitis, inflammatory bowel disease, or food intolerance and (2). Patients may continue to believe that their pain is organic in origin, since a 53% continued taking medications. The implication is that some doctors communicate

poorly with patients and explanation and reassurance are inadequate. Furthermore, the situation is perpetuated by the continued prescription of drugs in the knowledge that the patient does not have organic disease. Perhaps gastroenterologists spend disproportionately little time counseling patients with IBS compared with patients with organic abdominal pain.

Because only the minority of our patients was checked for celiac disease, we think it is possible that some such cases might have been missed as up to 5% of patients with IBS may have celiac disease, especially in female population.[18] Similarly, colonic biopsies were taken in only 8% of our patients and therefore, microscopic colitis, and inflammatory bowel disease could not have been ruled out with confidence, as up to 20% of Crohn's disease patients have microscopic granulomas when the mucosa is macroscopically normal.[19-22] Another shortcoming of our study is that hydrogen breath tests were not done in these patients for detection of lactose or fructose malabsorption as enzymatic deficiency is increasing with age after weaning and is present in up to 70% of people at the age of 70.[22]

Deficiencies in the study: First: A scale to measure the amount of social stress precipitating IBS was not used. Second: Description of the other symptoms in the Rome II criteria that are in keeping with IBS were not discussed in detail. Third: As not all patient underwent upper endoscopy and colonoscopy, it is possible as the case with IBS anywhere in the world that some cases of organic bowel diseases were missed as well as non-ulcer dyspepsia.

The results of this study indicate that abdominal pain in women referred to gastroenterology and internal medicine clinics is often non-organic. This emphasizes the need for better identification of those women most likely to have underlying cause before referral for further assessment. Finally our study indicates the need for a radical change in our approach to diagnosing IBS in our part of the world, mainly by using Rome criteria, in order to avoid unnecessary investigations, and at the same to be aware of the rare diseases that may simulate IBS.

CONCLUSIONS

Irritable bowel syndrome is very common in women suffering from chronic abdominal pain in Jordan. Despite a diagnosis of IBS, morbidity was considerable; an appreciable proportion continued to have abdominal pain and to take medications. In some of those patients, a hidden pathology, like celiac disease, Crohn's disease, or microscopic colitis may still be present and relevant investigations should be carried out when appropriate.

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