

OUTCOME OF INVESTIGATING WOMEN PRESENTING WITH CHRONIC ABDOMINAL PAIN IN JORDAN

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ABSTRACT

Objective: To characterize the possible risk factors, clinical features, and outcome for women referred with abdominal pain that subsequently underwent investigations including colonoscopy and were found to be normal.

Methods: The records of 500 women with abdominal pain seen in outpatient clinics in three hospitals at Royal Medical Services-Jordan, between January 2001 and April 2005, who subsequently underwent various gastrointestinal investigations were analyzed. Subjects were divided into two groups according to results as women with underlying causes for their abdominal pain and women with normal investigation and considered to have Irritable Bowel Syndrome.

Results: Three hundred fifty two (70%) women had normal investigations, 148 (30%) women had underlying causes. Social restrictions (family or the cultural limitations) was the only possible risk factor more frequently encountered in women with irritable bowel syndrome group ($P < 0.05$). Abnormal stool form or passage was the most common associated symptom. One hundred ninety three 193 (55%) patients with irritable bowel syndrome continue to visit the clinics because of abdominal pain. One hundred and two (53%) of them continued to take medications. Thirty one (16%) patients were admitted to hospital because of severe abdominal pain, and three (1.6%) were found to have an underlying cause.

Conclusions: In women referred with abdominal pain, a diagnosis of irritable bowel syndrome was common. A hidden pathology such as celiac disease, microscopic colitis, or food intolerance may still come under the diagnosis of irritable bowel syndrome in Jordan, therefore good assessment is always needed.

Key word: Irritable Bowel Syndrome, Pain, Women.

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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 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⁾

Epidemiologic studies of irritable bowel syndrome have described gender differences, with greater numbers of women than men.⁽⁵⁾ Women have two to 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

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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⁾

We studied the files of 500 women referred to Internal Medicine and Gastrointestinal clinics with abdominal pain for further investigation over a 5-year period in King Hussein Medical Center, Prince Rashid Hospital, and Prince Ali Hospital at three governorates in Jordan.

Methods

A retrospective review of the medical records of 500 women who presented with abdominal pain (age between 18-65 years) at Internal medicine and Gastrointestinal clinics during 2001-2005 at three Royal Medical Services hospitals was undertaken. Abdominal pain was defined as chronic when the duration was more than three months. All women studied had undergone different investigations searching for an underlying cause of their abdominal pain including complete blood picture, liver and kidney function tests, stool analysis, urine analysis, abdominal ultrasound examination. A considerable number had gastroscopy, colonoscopy with or without biopsies, and some of them had celiac serology done.

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 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 (3) associated with a change in form or appearance of stool.

Symptoms that are supportive of the diagnosis of IBS are: (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. Women excluded from the study were: (1) younger than 18 years; (2) had a history of abdominal pain less than three months duration; (3) had a history of Familial Mediterranean Fever; (4) had a history of abdominal surgery; (5) were diabetic; (6) or had chronic gastrointestinal diseases.

The presence of possible risk factors as a family history (first degree relative with IBS), low income (Between 200-500 JD per family per month), low education (6th primary class or less), cancer phobia, social restrictions and history of gastroenteritis were clarified during follow-up visits. Other details were obtained from the clinical notes, with follow up to present day. Events during follow up, if the patient continue to visit the clinic, including continued abdominal pain, further treatment, hospital readmission and new underlying causes were recorded.

Social restrictions were defined as family or cultural limitations that the Jordanian traditions mainly apply with women. These restrictions are variable between families in different areas in Jordan and may some times reach oppression. Very low income was defined as less than 200 Jordanian Dinars (JD) per family per month. Low income was between 200-500 JD per family per month. Low education was defined not having completed sixth grade at school.

Chi-Square was used for statistical analysis. P-Value was considered significant if less than 0.05.

Results

Of the 500 females who underwent investigations, 148 (30%) had an underlying cause for their abdominal pain. The most common underlying cause was peptic ulcer disease and pyelonephritis (Table I).

Table I. Women referred with abdominal pain and found to have underlying causes

Underlying Causes of abdominal pain	Number	(%)
Peptic ulcer	64	43
Pyelonephritis	39	26
Biliary colic	19	12.8
Diverticulitis	11	7
Pancreatitis	4	3
Salpingitis	2	1
Inflammatory bowel disease	9	6

Three hundred fifty two (70%) women had normal investigations including complete blood picture, liver and kidney function tests, stool analysis, urine analysis, gastroscopy, colonoscopy with or without

biopsies and abdominal ultrasound examination therefore physicians confirmed the diagnosis of IBS. Only 27 (8%) of them had random colonic biopsies.

Social restrictions were more frequently encountered in women diagnosed with 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. Very low income and cancer phobia were not a significant findings in women diagnosed with IBS (Table II).

Table II. Possible risk factors in women with abdominal pain

	Women with IBS (%)	Women with underlying cause (%)
Social restrictions	317 (90)	31 (21)
Low income	305 (87)	106 (72)
Low education	286 (81)	123 (89)
Cancer phobia	164 (47)	112 (76)
History of gastroenteritis	62 (18)	17 (12)
Family history of IBS	33 (9)	8 (5)
Very low income	27 (8)	32 (22)

Symptoms that were supportive of the diagnosis of IBS are shown in Table III. Abnormal stool form (92%) or passage (82%) were the most common symptoms associated with abdominal pain in women with IBS. Follow up details were obtained on 193 (55%) patients from those diagnosed to have IBS, because they continued to complain of abdominal pain with a mean time of seven months after diagnosis. One hundred and two (53%) of them continued to take medications, 31 (16%) were admitted to hospital because of severe abdominal pain, and 15 (7.8%) were found to have underlying cause for their abdominal pain. Nine of which had Celiac disease and six had Crohn's disease (Table IV).

Table III. Symptoms that are supportive of the diagnosis of IBS

Symptoms	Number (352)	%
Abnormal stool form	324	92
Abnormal stool passage	291	82
Bloating	279	79
Fatigue	265	75
Abnormal stool frequency	128	36
Passage of mucus	121	34
Urinary frequency	42	12

Table IV. Outcome in 193 patients who continued to visit the gastroenterology clinic after being diagnosed as IBS

Outcome of women diagnosed IBS	Number (352)	%
No follow up	159/352	45
Continued abdominal pain	193/352	55
Continued on treatment	102/193	53
Admission to hospital for abdominal pain	31/193	16
Underline cause:	15/193	7.8
Celiac disease	9	
Crohn's disease	6	

Discussion

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 of IBS, this has challenged clinicians 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 criteria 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 criteria 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 a physician to minimize the extent of diagnostic testing needed to make the diagnosis of IBS. In our study even when a woman was diagnosed with IBS based on Rome II diagnostic criteria, still different investigations had been done, either because the patient was demanding or the physician himself wanted to reassure the patients 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 as social restrictions, clinical features as abnormal stool passage and form and the results of investigations were of value in distinguishing women with IBS from those with underlying organic causes. 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. In our study risk factors for IBS other than social restrictions in women were poor discriminators. The reason why only social restrictions discriminated between women with and without IBS is uncertain. A possible explanation may be that those patients with social restrictions may find some relief by coming to hospital and gaining more attention from other family members. Very low income was significantly more (22%) in women with underlying organic causes than those with IBS (8%) which may represent a sample reflecting the actual income in the Jordanian population. Our explanation as to why very low income was found only in 8% of women with IBS may be because this group of population has no time to complain, and they are busy in how to take care of their family members.

Our data indicated that at least 55% of patients with normal investigations continued to visit the gastroenterology clinic because of continued abdominal pain, 53% continued on treatment, and 45% missed follow up. These were either satisfied with normal investigations or were followed up elsewhere. Perhaps this is not surprising since the cause of the patient's symptoms may remain undiagnosed, as celiac disease, microscopic colitis, inflammatory bowel disease, or food intolerance. Patients may continue to believe that their pain is organic in origin, since 53% continued taking medications. The implication is that doctors communicate poorly with patients and reassurance is inadequate. Furthermore, the situation is perpetuated by the continued prescription of drugs with the knowledge that the patient does not have organic disease. Perhaps gastroenterologists spend disproportionately little time counseling patients with IBS compared to patients with organic abdominal pain.

Three deficiencies were identified in study. Firstly, a minority of our patients were checked for Celiac disease. Up to 5% of patients with a diagnosis of IBS have Celiac disease and at the same time Celiac disease has a female preponderance.^(18,22) Secondly, Colonic biopsies were taken in only 8% of our patients, therefore microscopic colitis, and inflammatory bowel disease could not be ruled out. Up to 20% of Crohn's disease patients have

microscopic granulomas when the mucosa is macroscopically normal.⁽¹⁹⁻²²⁾ Thirdly, hydrogen breath test is not available in Jordan for detection of lactose or fructose malabsorption as enzymatic deficiency increases with age after weaning and reaches up to 70% at the age of 70.⁽²²⁾

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. The most common underlying cause in our study was peptic ulcer disease, which may be the actual cause or an accidental finding during upper endoscopy. Our study aimed to characterize women referred with abdominal pain, since they represent a common clinical problem. Women represented the majority of patients referred with an abdominal pain for further investigation. Seventy percent of women referred with abdominal pain in our study, were subsequently found to have normal investigations. There is a need to change the approach in over diagnosing IBS in Jordan. Depending on Rome criteria with the supportive symptoms to avoid unnecessary investigations, at the same time to ask about alarm symptoms and to think of diseases that may simulate IBS would be a more effective approach.

Conclusions

Abdominal pain in women is common and may or may not have an underlying cause. In our study, despite a diagnosis of IBS, morbidity was considerable. An appreciable proportion continued to have abdominal pain and to take drug treatment. In some of those patients, a hidden pathology may be underlying the diagnosis of IBS in Jordan such as Celiac disease, microscopic colitis, inflammatory bowel disease, or lactose and fructose malabsorption.

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