

# High Prevalence of Irritable Bowel Syndrome in Patients Attending Urological Outpatient Departments

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Irritable bowel syndrome patients often complain of urinary symptoms such as frequency, urgency, and dysuria, raising the possibility of inappropriate referral to the urologist. To resolve this issue, the prevalence of irritable bowel syndrome was compared in patients attending urological and control clinics (dermatology and ENT). The overall prevalence of irritable bowel syndrome was 31.2% in the urological clinic compared with 21.2% in the controls ( $P < 0.001$ ), but striking differences emerged, depending on presenting complaint. Irritable bowel symptoms were particularly common in patients presenting with loin pain (male: 40.9%,  $P = 0.004$ ; female: 50%,  $P = 0.03$ ), dysuria (male: 43.8%,  $P = 0.007$ ; female: 46.2%,  $P = 0.01$ ) and frequency/urgency (male: 31.7%,  $P = 0.002$ ; female: 42.4%,  $P = 0.006$ ), and the male/female prevalence was 24% and 44%. These results suggest that in irritable bowel syndrome, urinary symptoms including loin pain can present diagnostic dilemmas in both the gastroenterological and urological setting, underlining the importance of specialists in these fields working together in order to define better ways of managing such patients.

**KEY WORDS:**

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Patients with irritable bowel syndrome (IBS) can suffer from a wide variety of noncolonic features including backache, lethargy, and symptoms suggestive of gynecological or urological problems. (1) Depending on the relative predominance of these complaints there is the potential for a patient with IBS to be referred to an inappropriate speciality, particularly if the bowel symptoms are not especially severe. We have previously shown that gynecology clinics have a heavy burden of patients with IBS (2), and these subjects have a poor outcome when referred to such departments (3). It is also known that patients with

IBS have physiological abnormalities of the bladder (4) and this, taken with the high prevalence of urological symptoms in such patients (5), raises the possibility that IBS patients in whom urological features are prominent might be referred to urological clinics. It was the purpose of this study to address this question by assessing the prevalence of IBS in patients referred to a urology clinic and comparing this to subjects referred to dermatology and ENT clinics (controls).

## MATERIALS AND METHODS

All new patients aged 18-70 referred to the Urology Department at the University Hospital of South Manchester from their general practitioner over a nine-month period were studied. The reasons for referral were recorded and are listed in Tables 1 and 2 below. The control group consisted of new patients aged 18-70 referred to the der-

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## UROLOGICAL SYMPTOMS IN IRRITABLE BOWEL SYNDROME

TABLE 1. PREVALENCE OF IBS IN CONTROL AND UROLOGICAL GROUPS

|               | Control   | Urological | P      |
|---------------|-----------|------------|--------|
| Sample size   | 574       | 513        |        |
| Total IBS     | 121 (21%) | 160 (31%)  | <0.001 |
| Total males   | 253       | 330        |        |
| Male IBS      | 36 (14%)  | 80 (24%)   | 0.004  |
| Total females | 321       | 183        |        |
| Female IBS    | 85 (26%)  | 80 (44%)   | <0.001 |

matology and ENT clinics at the same hospital. Consecutive patients were studied in both groups.

A previously validated detailed questionnaire used in our department for many years for epidemiological studies in IBS was administered to all subjects. Patients were identified as positive by our questionnaire if they had had all of the following: recurrent abdominal pain, abdominal distension (at times other than menstruating in women), and an abnormal bowel habit (constipation, diarrhea, or alternating) for at least six months previously. Constipation was defined as the passage of three or less stools per week with straining at stool and diarrhea as the passage of three or more stools per day. Abnormality of stool consistency was also recorded (eg, thin, pellet, mushy etc). Furthermore, the passage of blood with stools negated the diagnosis of IBS in all subjects, and subjects previously diagnosed as having an organic gastrointestinal illness or having undergone any form of surgery on the gastrointestinal tract (except cholecystectomy and appendectomy) were also classified negatively.

These criteria approximate closely to the Rome criteria but are more demanding in that they require a longer duration of symptoms and the presence of abdominal distension in all cases. It is felt that these more exacting criteria reduce the margin of error in epidemiological studies, where it is preferable to underestimate the extent of the problem rather than overestimate it.

The questionnaire was sent out to both IBS and control groups with their outpatient appointment card, and they were asked to return it on attending the clinic. Of the 713 patients in the urological group, 513 (72%) returned completed questionnaires. In the control group of 749 subjects, 574 (76.6%) returned questionnaires.

**Statistical Analysis.** Multiple logistic regression analysis was used to compare the prevalence of IBS in the individual

TABLE 2. PREVALENCE OF IBS IN MALE UROLOGICAL PATIENTS ACCORDING TO REFERRAL SYMPTOMS (ADJUSTED FOR AGE DIFFERENCES)

| Referral reason     | N  | +ve IBS, N (%) | P value vs controls |
|---------------------|----|----------------|---------------------|
| Dysuria             | 16 | 7 (43.8)       | 0.007               |
| Loin pain           | 22 | 9 (40.9)       | 0.004               |
| Frequency/urgency   | 60 | 19 (31.7)      | 0.002               |
| Hematuria           | 28 | 6 (21.4)       | 0.30                |
| Incontinence        | 1  | 0 (0)          | 0.60                |
| Testicular pain     | 29 | 6 (20.7)       | 0.33                |
| Testicular swelling | 23 | 5 (21.7)       | 0.34                |
| Prostatism          | 88 | 17 (19.3)      | 0.32                |
| Other               | 82 | 17 (20.7)      | 0.13                |

TABLE 3. PREVALENCE OF IBS IN FEMALE UROLOGICAL PATIENTS ACCORDING TO REFERRAL SYMPTOMS (ADJUSTED FOR AGE DIFFERENCES)

| Referral reason   | N  | +ve IBS, N (%) | P value vs controls |
|-------------------|----|----------------|---------------------|
| Dysuria           | 39 | 18 (46.2)      | 0.01                |
| Loin pain         | 22 | 11 (50.0)      | 0.03                |
| Frequency/urgency | 85 | 36 (42.4)      | 0.006               |
| Hematuria         | 23 | 10 (43.5)      | 0.04                |
| Incontinence      | 52 | 18 (34.6)      | 0.13                |
| Other             | 2  | 1 (50.0)       | 0.35                |

urology symptom groups and the control group, for males and females separately, making appropriate adjustments for age by including age as a covariate in the regression model.

## RESULTS

The mean age of the urology group was slightly older (47 years) than that of the controls (43 years). Appropriate adjustments were made in the statistical analysis to prevent any confounding effect of these slight differences.

The overall prevalence of symptoms compatible with a diagnosis of IBS was 31% in the urology patients compared with 21% in the controls ( $P < 0.001$ ). For all patients studied irrespective of whether they were urological patients or controls, the prevalence of IBS was significantly greater in females than males (33% vs 20%,  $P < 0.001$ ). The prevalence of IBS in male urological subjects was 24% vs 14% in controls and the prevalence of IBS in female urology patients was 44% vs 26% in controls (Table 1).

In both male and female urological patients, the prevalence of IBS varied considerably depending on the presenting complaint (Tables 2 and 3). In particular, patients with urinary frequency, urgency, dysuria, and loin pain had a high prevalence of symptoms suggestive of IBS. The symptoms listed in Tables 2 and 3 were not necessarily mutually exclusive, raising the potential for a spurious association between symptoms. Thus, a symptom not associated with IBS may apparently be related to the disorder through its association with another symptom. A further multiple logistic regression analysis including all symptoms, thus adjusting for interrelationships between symptoms, showed urinary frequency, dysuria, and loin pain alone were significantly predictive of IBS.

Table 4 lists the characteristics of the IBS found in both urology and control groups and shows that no significant differences (eg, site of pain or predominant

TABLE 4. CHARACTERISTICS OF SUBJECTS WITH IBS IN UROLOGICAL AND CONTROL GROUPS

|                      | <i>Control</i> | <i>Urological</i> | P    |
|----------------------|----------------|-------------------|------|
| Bowel habit (%)      |                |                   |      |
| Constipation         | 36.4           | 26.3              | 0.09 |
| Diarrhea             | 17.4           | 23.8              | 0.24 |
| Alternating          | 46.3           | 50.5              | 0.61 |
| Abdominal pain       |                |                   |      |
| Frequency >1 week    | 46.3           | 38.1              | 0.21 |
| Relief by defecation | 58.9           | 49.3              | 0.16 |
| Site                 |                |                   |      |
| Upper abdomen        | 42.1           | 35.6              | 0.32 |
| Lower abdomen        | 82.6           | 86.9              | 0.4  |

bowel habit abnormality) existed between the two groups.

### DISCUSSION

This study clearly demonstrates that a substantial proportion of patients referred to a urological clinic suffer from symptoms suggestive of IBS. More importantly, the prevalence of IBS varies according to the reason for referral to such a clinic. This finding raises the question of whether there is any way of avoiding inappropriate investigation in patients with IBS who are referred to the urology clinic. Certainly, some presenting symptoms that could be regarded of serious consequence, such as testicular swelling (Tables 2 and 3) have a low incidence in IBS and should not present too many problems. In females, hematuria was associated with a somewhat intermediate value but most people agree that such a symptom always requires investigation. In contrast, with those symptoms associated with IBS the value of further investigation that may prove unnecessary and unrewarding could be questioned, although this would have to be answered in a separate study. However, such a policy is not feasible, as it is entirely possible that on occasion, serious urological disease may still be overlooked. Thus deferring investigation in any particular subset of urological patients is not a realistic option and the extent of investigation has largely to depend on clinical judgment.

Our findings are probably much more relevant to the frequent problem of the patient with prominent urological symptoms in either the gastroenterological or urological setting in whom nothing "urological" has been found. These patients tend to be referred back and forth between clinics with no one taking ultimate responsibility for their treatment, no satisfactory outcome being achieved, and the patient becoming more and more disgruntled. This results in a

cycle of repeated unnecessary investigations and mounting costs to the health care system.

It has previously been documented that urological symptoms such as frequency, urgency, and dysuria are common in patients with IBS and that urinary frequency even has discriminant value in the diagnosis of IBS (6). The results of this study suggest that loin pain should also be added to this list of associated symptoms. The mechanism by which IBS could be linked with urinary symptoms is not known, but there is some evidence for a shared smooth muscle disorder (4). Alternative explanations include external pressure on the bladder, particularly in patients experiencing abdominal distension or an abnormality of visceral sensitivity that is now a very topical issue in the field of IBS (7).

The choice of control group for a study such as this is obviously of critical importance. It is well known that, irrespective of disease, some patients consult doctors more than others and the same applies to IBS, where learned illness behavior has been shown to be an important factor. Thus, for the purposes of comparison, a control group taken from the normal population (noncomplainers) would seriously underestimate the prevalence of IBS and spuriously exaggerate our results. It was therefore felt that the best control group would be a group of hospital attenders (complainers) with symptoms referable to a system unlikely to be associated with IBS, such as dermatological and ENT problems. Thus, the finding in the control group of a prevalence of IBS higher than would be expected in the general population (8, 9) came as no surprise and increased the validity of the results with the urological patients.

The results of this study have identified another extremely important area of overlap between IBS and another clinical speciality. From the gastroenterological point of view, the presence of urological symptoms does not necessarily negate the diagnosis of IBS, but if there is any question of a more sinister cause for the problem, referral may be necessary. From the urological point of view, once reasonable investigation has been undertaken, continuing symptomatology may be grounds for a gastroenterological opinion. Certainly, closer collaboration between gastroenterologists and urologists may help to define better ways of managing these patients as so far it is not even known whether treatment of irritable bowel syndrome has any effect on these urological features of the disorder.

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