Original Paper

Digestion

Digestion 1998;59:157–159

Received: July 17, 1996
Accepted: October 16, 1997

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Chlamydia trachomatis Infection: Is It Relevant in Irritable Bowel Syndrome?

Key Words
Irritable bowel syndrome
Chlamydial infection

Abstract

Background: Irritable bowel syndrome can present with gynaecological symptoms similar to those of chronic pelvic inflammatory disease, which is commonly caused by *Chlamydia trachomatis*. Infection with this organism might therefore lead to diagnostic and management difficulties in patients, not only as a result of symptom overlap between the two disorders but also because chlamydial infection might exacerbate the symptoms of irritable bowel syndrome. This study was designed to investigate any possible link between chlamydial infection and irritable bowel syndrome. **Patients/Methods:** The prevalence of antibodies to *C. trachomatis* and abdominal symptomatology was assessed in a group of 100 female patients with irritable bowel syndrome and 100 matched female controls. **Results:** 25% of patients and 17% of controls were found to have evidence of previous chlamydial infection. This difference was not statistically significant. Within the patient group, no association was found between chlamydial infection and any particular pattern of symptomatology. **Conclusions:** The results of this study indicate that occult chlamydial infection is not a major problem in irritable bowel syndrome and that routine investigation for this organism is unnecessary. They also provide some reassurance that pelvic inflammatory disease and all its potentially serious consequences is not being significantly overlooked in gastroenterological practice.

Introduction

In recent years, there has been a growing awareness of the overlap in symptomatology between irritable bowel syndrome (IBS) and certain gynaecological disorders such as chronic pelvic inflammatory disease (PID), a condition which is being seen with increasing frequency in gynaecological practice and may have serious sequelae [1].

It is now well recognised that in addition to causing classic symptoms of abdominal pain, distension and abnormal bowel habit, patients with IBS can complain of a number of vague non-specific symptoms which may include backache, lethargy, dysmenorrhoea and dyspareunia [2]. Patients with chronic PID can similarly suffer from a variety of vague symptoms raising the possibility of diagnostic confusion between the two disorders. As a large proportion of chronic PID is due to chlamydial infection [3], it was the purpose of this study to assess any possible link between previous chronic chlamydial infection and IBS.

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0012–2823/98/0592–0157$15.00/0

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Table 1. Social class distribution in patients with IBS and controls

Social class	IBS patients (n = 96)	Controls (n = 100)
I (Professional)	6	11
II (Intermediate/managerial)	16	21
III (Skilled)	52	45
IV (Partly skilled)	17	17
V (Unskilled)	5	6

No significant difference was found.

Table 2. Prevalence of chlamydial infection by social class

Social class (n = 196)	Chlamydia positive
I (n = 17)	5 (29%)
II (n = 37)	5 (14%)
III (n = 97)	22 (23%)
IV/V (n = 45)	10 (22%)

No significant difference was found.

Table 3. Prevalence of gynaecological symptoms in IBS patients with and without chlamydial infection

Symptom	Chlamydia positive (n = 25)	Chlamydia negative (n = 75)
Dyspareunia	14 (56%)	35 (47%)
Dysmenorrhoea	15 (60%)	46 (61%)
Infertility	4 (16%)	13 (17%)
Vaginal discharge	9 (36%)	39 (52%)
Other	16 (64%)	47 (63%)

No significant difference was found.

Methods

100 consecutive female IBS patients who fulfilled the Rome criteria [4] were recruited over a 9-month period from the outpatient clinic and, in common with all our work on epidemiological and prevalence issues in IBS, this study was confined to secondary referrals. The patient group was compared to 100 age- and social class-matched healthy volunteers, with social class being determined by using the father's occupation and by reference to the booklet entitled 'Classification of Occupations' published by the Office of Population Censuses and Surveys [5]. An excess of control subjects were recruited to enable subsequent social class matching with the patient group. Controls were recruited from all grades and types of hospital staff to ensure a good social class mix and those with a diagnosis of IBS or gynaecological pathology were excluded. All patients completed a detailed questionnaire which was administered by a doctor and included questions on gastrointestinal and gynaecological symptomatology although subjects were not specifically assessed by a gynaecologist. Blood was taken and sera tested for antibodies to *Chlamydia trachomatis* L2 antigen by a micro-immunofluorescence test [6], taking a titre of >1:32 as indicative of previous infection. Serological, as opposed to culture evidence for chlamydial infection was deliberately chosen for this study as we were only concerned with detecting patients with chronic rather than acute PID. The study was approved by the South Manchester District Ethical Committee.

Statistics

Results were analysed using χ^2 and two-sample t tests.

Results

There were no significant differences between the 2 groups in terms of age (IBS 19–55 years, mean 32; controls 19–58 years, mean 33) or distribution of social class (table 1). The distribution of social class in both groups closely approximated that of the general population. 25% of IBS patients and 17% of controls had evidence of previous chlamydial infection. This difference was not statistically significant (p = 0.22). In 4 IBS patients, social class status was not obtained and there was no significant association between chlamydial infection and social class (p = 0.55; table 2). Within the IBS group, no association was found between infection and age, and no particular gynaecological symptom was predictive of chlamydial infection (table 3). Furthermore, there were no significant differences in patterns of symptomatology for those who were positive or negative for chlamydial infection.

Discussion

Chlamydial infection could theoretically influence the pathophysiology and management of IBS in a number of ways. Firstly, the symptoms of chronic PID can closely mimic those of IBS leading to diagnostic confusion between the two disorders and, as IBS is more common in women, is going to be a frequently encountered clinical problem. Secondly, it is well known that patients with IBS complain of irritable bowel pain following sexual intercourse and the onset of these symptoms can be delayed often by a period of many hours [2]. The mechanism behind this observation is unclear but could involve a pro-

cess such as reflex stimulation. Thus, it is possible that genital infection or inflammation might in a similar way cause a more chronic form of reflex bowel stimulation. Lastly, patients with IBS often state that treatment with antibiotics for other unrelated conditions can make their IBS symptoms worse [7]. Thus, treatment for PID with antibiotics, particularly when it is done on an empirical basis, could well lead to an exacerbation of their IBS.

Obviously, chronic PID is extremely important in gynaecological practice because of its potential for leading to long-term serious consequences, particularly infertility and predisposition to ectopic pregnancy [8]. It is therefore critically important to ascertain whether patients with PID are presenting to gastroenterological clinics and being overlooked because they are regarded as cases of IBS. It is already known that the opposite situation can occur and that patients with IBS are frequently inappropriately referred to gynaecology clinics. Furthermore, when this happens, the outcome for this group of IBS patients is especially poor [9].

There is surprisingly little information on the prevalence of chlamydial infection in the community [1] and this is further confused by different methods of detection. Culture studies give more precise data on the prevalence of active infection, but it could be argued that serological tests, although they may result in higher prevalence values, are more relevant to chronic PID where it is also necessary to know about previous infection.

Thus this study has the advantage of concentrating on chronic as opposed to acute PID as the former is most likely to be confused with IBS. One potential problem with the serological testing which was used in our study is that it gives no information on the anatomical location of an infection and thus a pelvic origin cannot be assumed in all cases, although genital infection is by far the commonest site of involvement observed in the UK. As expected, our results (25% IBS; 17% controls) are somewhat higher than values in the literature based on culture methods (7–12%) but much more in accord with data obtained by serological testing (19–30%) [9–12].

The results of this study suggest that previous chlamydial infection is not a confounding factor in the diagnosis or management of IBS and there is no need to routinely seek evidence of previous infection with this organism in patients with apparently straightforward IBS.

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