Chronic pelvic pain and irritable bowel syndrome

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This article describes the common association between chronic pelvic pain and irritable bowel syndrome. The aim of the diagnosis and management of chronic pelvic pain and irritable bowel syndrome is to improve the quality of life of the patient. Methods of diagnosis, treatment and overall management for these two challenging conditions are outlined in this article.

Chronic pelvic pain (CPP) is a common and debilitating condition. It has a major impact on health-related quality of life, work productivity and health-care resources (Mathias et al, 1996; Gelbaya and El Halwagy, 2001; Akehurst et al, 2002), and is also a major cause of workplace absenteeism (Sundell et al, 1990). CPP represents 10–20% of all outpatient visits to a gynaecology clinic (Howard, 1993), and is responsible for approximately 40% of laparoscopies and 10–15% of hysterectomies (Gelbaya and El Halwagy, 2001).

Patients with CPP are referred to many specialties (e.g. gastroenterology and urology) in addition to gynaecology departments. Diagnosis is often difficult, and the frequency with which particular diagnoses are made varies according to the specialist seen, as well as between clinicians within the same specialty (Steege and Shortliffe, 2001). Gynaecologists will invariably perform a laparoscopy in order to search for a recognizable gynaecological disorder, which is frequently not found.

CPP is now increasingly being considered as a multifactorial disorder, and therefore it would appear that the traditional gynaecological approach to diagnosis is overly simplistic and outdated. The authors believe that other non-gynaecological conditions associated with CPP should be considered from the outset. One such condition is irritable bowel syndrome (IBS). This is a highly prevalent condition, and substantial overlap may exist between the symptomatology of gynaecological conditions and IBS (Whorwell, 2001). The authors believe that the successful management of many women with CPP depends upon recognizing the potential contribution of IBS.

DEFINITION, PREVALENCE AND AETIOLOGY OF CPP

CPP is generally defined according to the anatomical site and duration of symptoms. A common definition is recurrent or constant pain in the lower abdominal region that has lasted for at least 6 months (Campbell and Collett, 1994). Some definitions of CPP exclude pain associated with the menstrual cycle or sexual intercourse (Price and Blake, 1999; Zondervan and Barlow, 2000). However, the definition of CPP adopted by the authors' centre, which includes menstrual and sexual pain, is:

> **'Constant or intermittent, cyclic or acyclic pain, that persists for 6 months or more and includes dysmenorrhoea, deep dyspareunia and intermenstrual pain' (Vercellini et al, 1989).**

The annual prevalence of CPP in the UK in the primary-care setting among women aged 17–73 years is 38/1000, which is comparable with the prevalence of other chronic conditions such as asthma (37/1000) and back pain (41/1000) (Zondervan et al, 1999a). CPP is also prevalent in around 24% of the general female population aged 18–49 years (Zondervan et al, 2001a), and appears to be most common in women between 26 and 30 years of age (Jamieson and Steege, 1996).

The most common causes of pelvic pain are endometriosis, pelvic inflammatory disease and adhesions (*Table 1*). However, in 40% of cases no obvious cause for pain is found at diagnostic laparoscopy (Porpora and Gomel, 1997), and non-gynaecological causes of CPP are usually only then considered (*Figure 1*). Under such circumstances the patient represents a diagnostic and management challenge.

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TABLE 1.
Most commonly reported causes of chronic pelvic pain

Gynaecological	Endometriosis/adenomyosis
	Pelvic inflammatory disease
	Adhesions
	Pelvic congestion
	Chronic adnexal pathology
Gastrointestinal	Irritable bowel syndrome
	Constipation
Genitourinary	Interstitial cystitis
	Urethral syndrome
Musculoskeletal and neurological	Mechanical pelvic pain
	Muscle pain/skeletal disease
	Pelvic pain – posture
	Nerve entrapment
	Referred pain
	Neuropathic pain
	Moderation by nervous system
Psychological	Psychosocial factors
	Psychogenic pain
	Physical and sexual abuse

DEFINITION, PREVALENCE AND AETIOLOGY OF IBS

IBS is a functional disease (now indexed as functional colonic disease), meaning that pain and changes in bowel habit arise from abnormal behaviour of the bowel or from abnormal perception of the physiological events, rather than from any structural abnormality (Moore and Kennedy, 2000).

IBS is defined according to the criteria in *Table 2* (Manning et al, 1978; Lynn and Friedman, 1995). Although such criteria can be useful, they are mainly used in the research context where they ensure homogeneity of patients entering various studies. Unfortunately, they have not been widely adopted in clinical practice, as they can be restrictive for routine clinical use (Whorwell, 2001).

The prevalence of IBS in the general population is between 10 and 20% (Lynn and Friedman, 1995; Jamieson and Steege, 1996). IBS accounts for a large number of consultations, both in primary and secondary care.

A large epidemiological study in Denmark found a higher prevalence and incidence of IBS in younger age groups, irrespective of sex, and in those assessed as being psychologically vulnerable or who were experiencing problems (Kay et al, 1994a,b). No association was found with social class, smoking, body mass index or alcohol use. A cross-sectional survey of 1500 women in the USA found a similar decrease in prevalence of IBS with increasing age, and no association with smoking, alcohol consumption, marital status or level of education (Talley et al, 1995).

The aetiology of IBS is unknown, and no clear hypothesis exists for its causation (Zondervan and Barlow, 2000). However, there has been a suggestion that there may be a genetic predisposition (Whorwell, 2001). Although organic causes need to be considered and ruled out, this approach has led to the tradition of diagnosing IBS by a process of exclusion. This can subject patients to a wide range of negative investigations. This approach trivializes the problem and can reinforce the concept that IBS is a purely 'psychosomatic' illness.

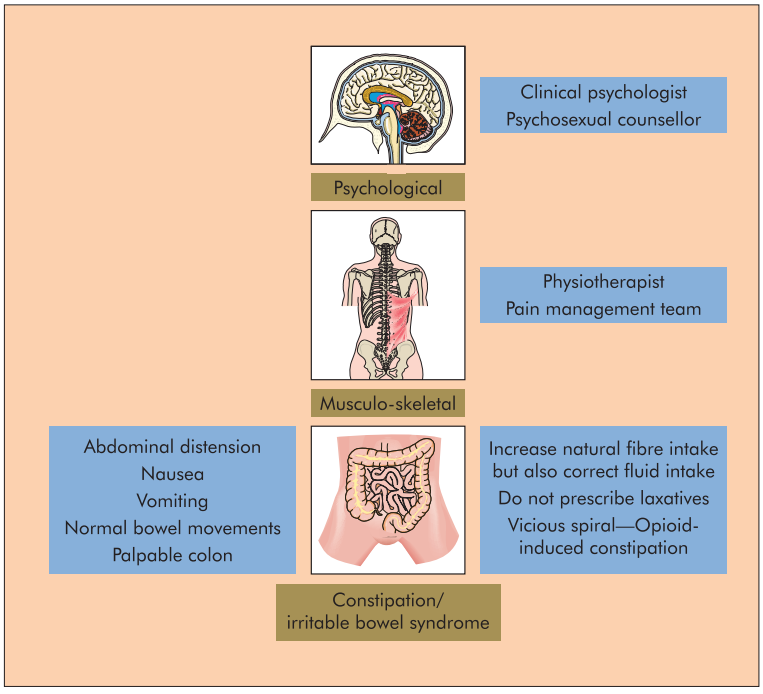


Figure 1. Non-gynaecological causes of chronic pelvic pain.

DIAGNOSIS OF IBS

The diagnosis of IBS is made on history alone (*Table 2*). Although the results of special investigations are by definition negative, the diagnosis of IBS should not simply be one of exclusion. It is extremely important to take a detailed history and to perform a comprehensive physical examination. The description of the pain should include its site, character, duration and aggravating and alleviating factors, including changes in relation to menstrual, gastrointestinal and urinary functions. In all patients with CPP symptomatology, the impact of pain on the patient's lifestyle should be noted; does it affect a patient's work, sleep, exercise, sexual relation-

ship or family life? Furthermore, the presence of mood changes, such as depression or anxiety, should be elicited.

RELATIONSHIP BETWEEN CPP AND IBS

A substantial overlap is reported between CPP, genitourinary symptoms and IBS in the community (Zondervan et al, 2001b). Thirty-nine per cent of patients with CPP have been reported as having IBS, and 24% of patients with CPP also have genitourinary symptoms (Zondervan et al, 2001b). In another study the prevalence of CPP was 14%; of these, 79% of patients had symptoms satisfying the criteria for diagnosing IBS (Walker, 1991). Four further studies of patients reporting CPP have shown IBS to be a common comorbid condition present in 29–79% of these patients (median 49.9%) (Prior and Whorwell, 1989; Longstreth et al, 1990; Walker et al, 1996; Zondervan et al, 1999b). In the authors' own CPP clinic this association has been found to occur in up to 75% of these patients.

A comparison of the diagnostic parameters of IBS and CPP is given in *Table 3*. However, distinguishing between gynaecological causes of CPP and IBS can be challenging. Dysmenorrhoea, dyspareunia and premenstrual syndrome are associated with CPP and are taken as being suggestive of underlying gynaecological pathology. However, women with IBS often complain of dyspareunia (which can be a dull ache that lasts for many hours afterwards), although the nature of such symptoms may be different, delayed and persist for longer if associated with IBS. Conversely, gynaecological disease may be misdiagnosed as IBS. For example, abdominal distension or changes in bowel habit in association with pain may indicate IBS. However, cyclical hormonal changes produce characteristic symptoms in most women, of which premenstrual 'bloatedness' is as common as menstrual-induced alteration in bowel habit. This perhaps indicates that female sex steroids may have an important influence on gastrointestinal as well as gynaecological physiology (Mathias et al, 1989).

CPP, IBS AND PSYCHOLOGY

CPP can be a perplexing problem for the clinician and a frustrating one for the patient. In addition to the pain, women with CPP or IBS often experience an apparent multitude of other related symptoms. In these circumstances, some inherent psychological disturbance or pain hypersensitivity is inferred (Whorwell, 2001).

Psychological factors, including anxiety, neuroticism, sexual dysfunction and somatization, are prevalent in women with CPP (Pearce, 1987). Although it is generally accepted that psychological factors play an important role in the experience of CPP and IBS, clinicians have traditionally oversimplified the origin of CPP as being of physical (i.e. organic) or psychological origin. This distinction is false, as these entities are invariably interrelated (Newton-John, 2001).

TABLE 2.
Diagnosis of irritable bowel syndrome

Manning criteria*	Abdominal pain that recurs over a period of more than 3 months in the previous year, plus two or more of the following:
	Loose stools at the onset of pain
	More frequent bowel movements at the onset of pain
	Pain is often eased after bowel movement
	Feeling of distension (bloating)
	Mucus per rectum
	Hard pellet stools
	Dyspareunia
Rome criteria†	At least 3 months of intermittent or constant pain that is relieved by defaecation and associated with a change in the frequency or consistency of the stool and at least two of the following:
	Altered stool frequency
	Altered stool form (diarrhoea, rabbit pellets, etc)
	Altered stool passage (straining, urgency, etc)
	Passage of mucus
	Bloating

*From Manning et al (1978); † From Lynn and Friedman (1995)

TABLE 3.
Diagnostic parameters of irritable bowel syndrome and chronic pelvic pain

	Irritable bowel syndrome	Chronic pelvic pain
History	Presence of various symptoms described under Manning and Rome criteria Persistence of pain during hormone-induced amenorrhoea	Dysmenorrhoea and dyspareunia symptoms overlap with irritable bowel syndrome Totally pain-free when amenorrhoeic because of hormonal suppression. This is diagnostic for endometriosis
Examination	Presence of visible, abdominal distension Tender, palpable colon mainly in the iliac fossae Rectal tenderness per vagina	Gynaecological pathology may be detected on vaginal examination, e.g. Pouch of Douglas nodularity Tender uterine movements
Investigations	Flexible sigmoidoscopy for women <40 years Barium enema or colonoscopy for older women	Full blood count Routine urine analysis High vaginal swab culture Endocervical swab for chlamydia Transvaginal ultrasound for fibroids or endometriomas (magnetic resonance imaging for endometriotic implants – a situation that may be clarified by hormone-suppression treatment) Diagnostic laparoscopy

TABLE 4.
Treatment of chronic pelvic pain and irritable bowel syndrome

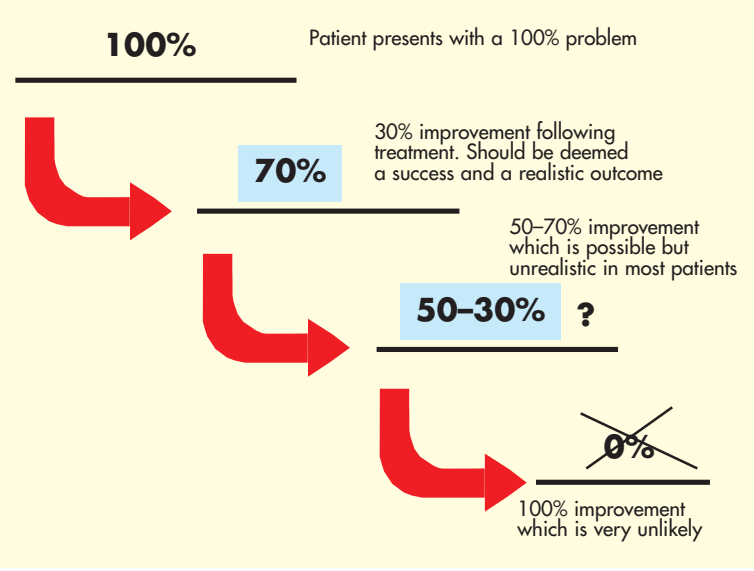
Options	Irritable bowel syndrome	Chronic pelvic pain
Nothing	Dietary advice Increase natural fibre, e.g. fresh fruit and vegetables Increase fluid intake (this is essential with increased fibre intake)	Explanation and support
Medical	Non-opioid analgesics, i.e. non-steroidal anti-inflammatory drugs	Analgesics Antibiotics Hormonal treatments, e.g. high-dose progestogens, combined oral contraceptives (taken continuously) to induce amenorrhoea Mirena coil Danazol Gonadotropin-releasing hormone analogues
Surgical	No role Inappropriate surgery may exacerbate underlying symptoms of irritable bowel syndrome (Prior et al, 1992; Thakar et al, 1997; Kelly et al, 1998; Radley et al, 1999)	Adhesiolysis* Hysterectomy with bilateral salpingo-oophorectomy† Laparoscopic intervention (laparoscopic uterosacral nerve ablation,‡ excision/ablation of endometriosis, ‡laparoscopic adhesiolysis, oophorectomy/ovarian cystectomy, where applicable)

* Adhesiolysis by laparotomy has shown no benefit in patients with light or moderate pelvic adhesions. However, patients with severe adhesions involving the bowel have been found to have benefited (Steege and Stout, 1991); † Hysterectomy with bilateral salpingo-oophorectomy in patients with symptoms confined to the uterus had significant improvement (78%), while 22% still had persistent pain (Stovall et al, 1990); ‡ Paucity of evidence for effectiveness – randomized controlled trials ongoing

Moreover, psychiatric disorders such as depression and anxiety have frequently been found in association with IBS, although it is debatable whether depression is more common in women with CPP (Beard, 2001).

Complete symptomatic relief is unachievable in many patients, and ultimately the persistence of pain can be frustrating for both patient and clinician. It is inappropriate when faced with this common scenario to make the patient feel that her pain is imaginary or that there is nothing further that can be done. A multidisciplinary approach using the skills of a psychiatrist, psychologist or psychotherapist can be useful in these situations, especially where there is a history of prior or ongoing emotional trauma and physical and/or sexual abuse.

Figure 2. Diagram given to patients to reinforce realistic expectations regarding symptom relief with currently available treatments for chronic pelvic pain.



TREATMENT

CPP in association with IBS is a challenge to clinicians. The authors believe that in many women with CPP a complex association exists between gynaecological, gastrointestinal and psychological factors. The multifactorial nature of CPP should be acknowledged from the outset, and a holistic, multidisciplinary approach should be instituted, especially in refractory cases. More specifically, where IBS is considered to be contributing to CPP, it should be treated in conjunction with strategies for managing any associated gynaecological conditions (*Table 4*). Failure to diagnose IBS, whether in association with recognizable gynaecological pathology or not, will invariably result in the woman re-presenting with recurrent symptoms.

It is important to declare realistic expectations in pain control at the outset, so that both the clinician and patient can project a common strategic management pathway for both CPP and IBS (*Figure 2*). It is unlikely that 100% improvement will be achieved; most patients will probably expect around 30% improvement, and this should be deemed a successful outcome. A 50–70% improvement could be possible, but this requires significant patient-driven motivation in conjunction with any relevant therapeutic interventions suggested by the clinician.

In the authors' experience the following simple strategies are helpful in managing many women with CPP and IBS.

- Most patients with CPP are inevitably treated with opioid analgesics, but the authors have found that these can exacerbate patients' co-existent IBS. The patient goes into a complex vicious spiral; pelvic pain treated with opioids leads to constipation, so patients are

prescribed more opioid analgesics, which induces more constipation, thus aggravating the pelvic pain further. The method of breaking this vicious spiral is to prescribe non-steroidal anti-inflammatory drugs (NSAIDS), such as diclofenac, and to wean the patient off opioids (*Figure 3*).

- When patients suffer from IBS they are usually advised to increase their dietary fibre content. This does not necessarily mean prescribing laxatives or bulking agents. It is important not to medicinalize patients' symptoms, but to encourage them to increase the natural fibre content of their diet from food sources. A corresponding increase in water intake is necessary in order to keep the fibre bulk soft and easily passable through the colon. A common mistake is to supplement this fluid intake with caffeinated drinks, which can 'dehydrate' the patient and dry the fibre in the colon, inducing more constipation. In the authors' CPP clinic patients are given a well-recognized common scenario that they are likely to remember concerning the importance of adequate fluid supplement with fibre for the treatment of IBS (*Figure 4*). Patients are told that the positive effects from such a regimen may be realized up to 3–6 months later.

CONCLUSIONS

The aim in the diagnosis and management of CPP and IBS is to improve the quality of life of the patient. The authors' experience suggests that taking an honest, realistic, slow and steady approach results in the best outcomes. The authors have found that a dual management strategy for tackling CPP and IBS simultaneously gives the patients a reassuring and confident acceptance of their problem.

Understanding and accepting that the patient has genuine pain, even when the limitations of current medical knowledge has failed to elucidate the underlying cause(s) of pain or facilitate the implementation of effective treatments, can be reassuring for patients.

In seemingly intractable cases, a multidisciplinary approach to treatment is helpful. The core team should include a gynaecologist, a psychologist, an anaesthetist with expertise in pain management, a physiotherapist and a nurse counsellor; close liaison with a gastroenterologist, a urologist, an orthopaedic surgeon and a psychiatrist may be needed. Such a multidisciplinary approach attempts to improve patient understanding of the situation and achieve maximum possible symptomatic relief.

The use of opiate analgesics should be avoided as far as possible. The use of NSAIDs avoids inducing opioid-related constipation.

A holistic management approach may reduce the frequent use of health services and drugs, which may ultimately reduce the health-care costs. More patient satisfaction would be gained by improving patients' quality of life and by reducing illness-related absenteeism (Mathias et al, 1996; Akehurst et al, 2002). HM

Figure 3. Vicious pelvic pain spiral.

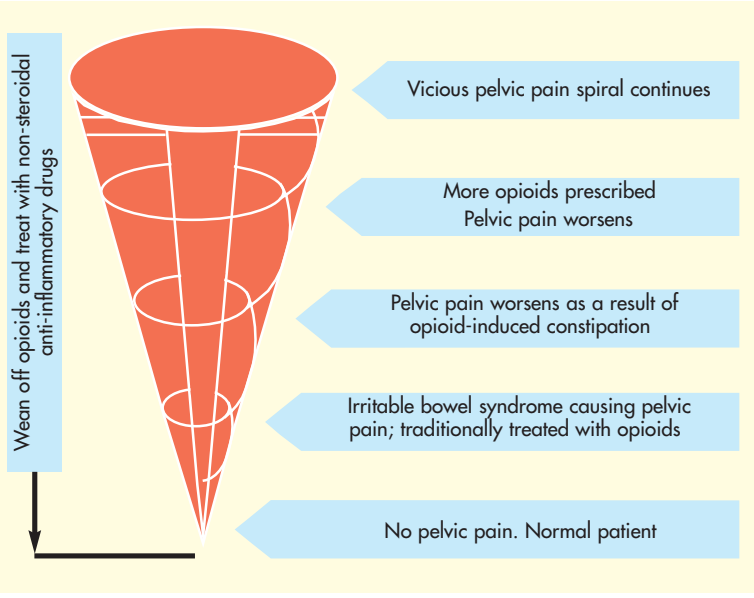


Figure 4. The 'Weetabix' story.

Imagine eating Weetabix (cereal) and leaving your bowl unwashed overnight. The following morning the Weetabix has dried solid to the bowl. The easiest way to remove this is by soaking the bowl in water. The same principles apply to your bowels. Unless you drink at least eight to ten glasses of water per day, the increased fibre intake may 'cake' in the bowels and worsen constipation. However, it is important to realize that caffeine-related drinks such as tea and coffee are not suitable fluids as they can 'dehydrate' you and similarly make matters worse. Therefore, drink plenty of clear water, which will bulk the stool fibre. Remember this regimen may take between 3–6 months to become effective, so persist with the fibre and fluid supplement. Good luck!

KEY POINTS

- The association between chronic pelvic pain (CPP) and irritable bowel syndrome (IBS) is common.
- The aim in the diagnosis and management of CPP and IBS is to improve the quality of life of the patient.
- A dual-management strategy for tackling CPP and IBS simultaneously in an honest, realistic, slow and steady approach results in the best outcomes.
- It is important to understand and accept that the patient has genuine pain.
- A multidisciplinary, holistic management approach to treatment is helpful.
- The use of opiate analgesics should be avoided, as these can exacerbate constipation.

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