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Non-pharmacological treatments in the irritable bowel syndrome

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INTRODUCTION

The irritable bowel syndrome (IBS) is a gastrointestinal disorder characterised by chronic lower abdominal pain and disordered defaecation associated with bloating, tenesmus and extra intestinal symptoms including urinary frequency, dyspareunia, fibromyalgia and functional upper gastrointestinal symptoms. Currently there is no unifying hypothesis which adequately explains the pathogenesis of the disorder although a number of physiological and psychological abnormalities have been described. These include altered visceral sensitivity, abnormal intestinal motility and abnormalities of cortical processing of afferent stimuli from the gut. These observations are set against a background of abnormal psychological profiles and an over representation of negative early life experiences. Failure to identify the cause of IBS has led to the development of a range of therapies, some designed to influence the physical effects of the disorder and others to influence the psychological features of the syndrome.

Most IBS patients managed in primary care respond to dietary modification, conventional pharmacological interventions and reassurance. However, when considering any therapeutic efficacy in IBS, it is necessary to weigh the therapeutic effect against the placebo response rate which has been reported to range from 40%-70%.[1] Approximately 15% of IBS patients are resistant to medical therapy. Psychological treatments are usually reserved for these refractory patients and those who relapse despite an initial response to medical treatment. Tricyclic antidepressants have been widely used in IBS and are probably effective through anticholinergic and analgesic effects rather than antidepressant activity. Placebo-controlled trials of tricyclics indicate that even at low doses, they are helpful in the management of abdominal pain and diarrhoea in IBS[2].

Over the past two decades, there have been various attempts to treat IBS using non-pharmacological approaches. As evidence has accumulated to support a role for these interventions, both patients and gastroenterologists have shown increasing interest in exploring this approach to IBS treatment. In this review we consider the evidence for psychopathology in IBS and the efficacy of non-pharmacological interventions.

PSYCHOLOGICAL MORBIDITY IN IBS

From the very first reports of IBS in the medical literature, psychological factors have been recognised as an important component of the syndrome. In 1859, the cause for IBS was attributed to overeating, over-drinking and excess of "sexual or other emotional excitement, sedentary life, damp or hot atmosphere, and the abuse of purgatives, but above all aloes". A "highly excitable condition of nervous centres" was postulated as the cause of IBS, and in 1892, IBS patients were described as manifesting "hysterical, hyperchondriacal and neurasthenic personalities"[3].

With the development of scientific method in medical research, attempts have been made to provide both qualitative and quantitative measures of psychological morbidity in IBS. At least ten studies have assessed the prevalence of psychological disorders in IBS patients[4]. Between 42%-64% of IBS patients meet criteria for a psychiatric diagnosis compared to a median incidence of 19% in patients with organic gastrointestinal disease, and 16% in healthy controls. The most common diagnoses are a generalised anxiety disorder and depression. There is no unique psychological profile which characterises IBS. This higher prevalence of psychological dysfunction in IBS appears to relate only to those sufferers who seek medical advice. Indeed, the majority of individuals fulfilling the criteria for IBS never seek medical attention and these non-consulters have a similar psychological profile to asymptomatic controls[5-7]. This, in turn has provided evidence that psychological factors rather than severity of symptoms influences the decision to seek medical attention. Most IBS consulters have been shown to have experienced negative early life experiences and heightened anxiety about health status. These observations suggest that management in primary and secondary

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care should focus not only on symptoms, but also on those psychological factors which have caused the patient to seek medical advice.

There is strong evidence that stress is an important factor in the pathogenesis of IBS[8]. Stress of major "life events", rather than the stress of everyday living, has been implicated as a trigger factor in many patients. In addition, patients often recognise that periods of excessive stress exacerbate their symptoms. In patients with IBS there is good evidence that stressful life events are more frequent, and the effects on GI function more profound, than controls[9,10]. It is against this background of anxiety, depression, stress and consulting behaviour patterns that psychodynamic strategies have been developed to manage IBS.

PSYCHOTHERAPY IN IBS

Psychotherapy is a treatment that primarily seeks to relieve symptoms by exploring the patient's underlying psychological conflicts and emotional disturbances. The first reported study of psychotherapy in IBS included 101 patients who were randomized to medical therapy with or without psychotherapy[11]. The psychotherapy was delivered over ten sessions and focused on mechanisms for coping with stress and resolving emotional problems. Psychotherapy was found to produce a greater improvement in abdominal pain and bowel dysfunction than medical therapy alone. Although symptoms were positively influenced, this short term therapy did not significantly influence the underlying psychopathology. The authors suggested that this might be explained by the relatively mild psychological morbidity in their patients, as the presence of a serious psychological disorder was an exclusion criteria for the study. This study, although of interest, and often quoted, has methodological flaws including the decision to exclude patients with more severe psychological disturbance in whom this therapy might have been of greater value. In addition, the study did not include a placebo arm or select placebo non-responders. The study left it unclear whether the improvement of physical symptom was a result of the psychotherapy or the considerable attention invested in the psychotherapy group.

These pitfalls were addressed by a later study of psychotherapy in IBS performed by Guthrie *et al*[12]. One hundred and two patients refractory to previous medical treatment were randomized to receive psychotherapy or supportive listening. The psychotherapy concentrated on developing a healthy patient-therapist relationship, recognizing other inter-personal relationships and their possible role in the patient's presenting problems. Psychotherapy was found to be superior to supportive listening in terms of improving both physical and psychological symptoms and the improvement in gastrointestinal function correlated significantly with improved psychological well-being. Excellent study design and attention to detail has made this study a benchmark for both pharmacological and non-pharmacological studies in IBS.

BEHAVIORAL THERAPY IN IBS

Behavioral treatment seeks to address and deal with current issues, anxieties and behavioral patterns rather than indulging in deep analysis of past experiences. An uncontrolled trial of behavioral therapy has been reported with a 4 year follow up[13]. In this study the authors used a combination of progressive muscle relaxation, thermal biofeedback, cognitive therapy and IBS education. All but two of the nineteen patients who were available for long-term follow-up rated themselves as at least 50% improved. Symptom diaries were used to demonstrate that the therapy resulted in significant reductions in abdominal pain, diarrhoea, nausea and flatulence. However, like many studies in IBS, the study was inadequately controlled. A more carefully controlled trial of behavioral therapy has been reported in IBS[14]. Forty-two patients were randomly allocated to receive either conventional medical treatment or behavioural therapy with a nurse therapist. The therapy concentrated on behaviour modification, bowel retraining and pain management techniques. It was noted that there were improvements in a number of physical and psychological symptoms, but no significant differences was found when the treatment group was compared with controls. The authors concluded that their approach to behaviour modification was no more effective than conventional medical therapy and reassurance.

HYPNOTHERAPY IN IBS

Hypnotherapy is a state of unusual concentration on the suggestions of the therapist and a willingness to follow their instructions[15] Whorwell *et al* have reported well constructed controlled trials of hypnotherapy in IBS. The technique is focused around a specific "gut directed" hypnosis protocol where the patient is taught to assert control over gut function and imagery whilst in an hypnotic state[16]. Patients are given a simple account of intestinal smooth muscle physiology and hypnotised in a standard manner. The patient is then requested to place their hand on the abdomen and to sense both a positive feeling of abdominal warmth and increased control over gut function. During hypnosis, visualisation is also employed, using the analogy of a gently flowing river and a gently flowing bowel to reinforce a positive bowel image.

Whorwell's initial study randomised thirty refractory IBS patients to seven sessions of either hypnotherapy or psychotherapy. When compared to psychotherapy, hypnotherapy was found to have a greater impact on abdominal pain, bowel habit, abdominal distension and general well-being. It

should be noted, however, that the response rate in the psychotherapy group was much lower than those reported from other centres[11,12]. Further experience of gut directed hypnotherapy has been reported in 250 IBS patients indicating an overall response rate of approximately 80%. Factors predicting a less satisfactory response to hypnosis includes atypical symptoms, older age and more profound psychological disturbance[17].

Two other independent groups have obtained similar results using gut directed hypnotherapy[18,19]. Both these studies were uncontrolled but do appear to support the value of hypnotherapy in IBS. In addition, it has been reported that hypnotherapy in groups of up to eight patients is as effective as individual therapy[18]. Further support for the effectiveness of hypnotherapy in IBS derives from studies on the effect of hypnotherapy on gut function. In two separate studies, hypnotherapy has been reported to reduce rectal sensitivity and colonic motility[20,21].

RELAXATION THERAPY IN IBS

Recognition that stress is a major factor in IBS has provided a basis to explore stress management as a therapy in these patients. Stress management has been compared to conventional therapy in a trial of 35 patients[22]. A physiotherapist delivered a median of six sessions aimed at recognizing the relationship between symptoms and stress, and teaching relaxation exercises. IBS symptoms were relieved in two thirds of patients receiving stress therapy, and only a small number of patients receiving conventional therapy. A small pilot study also found that teaching progressive muscle relaxation was effective in improving gastrointestinal symptoms[23]. Whilst these studies are encouraging, larger controlled studies are required to make a firmer statement on the potential of relaxation therapy in IBS.

BIOFEEDBACK THERAPY IN IBS

Biofeedback is a behavioural technique that uses visual or auditory cues to teach patients to alter physiological responses. With biofeedback, physiological events which are not normally appreciated by the patient are sensed by a technological interface and amplified to give the subject visual or auditory feedback. Patients soon learn to influence the loop and manipulate these physiological events thereby modifying organ function. A new form of biofeedback therapy has been developed and tested in IBS patients[24]. The biofeedback loop is based on the polygraph ("lie detector") which monitors tiny changes in electodermal conductivity occurring in response to stress and relaxation. Changes in cutaneous electrical activity are electronically transformed into a computerised animation of the gut shown on the computer screen. This animation can be controlled by the patient who learns to manipulate the computerised representation of bowel movement using a combination of mental and physical relaxation. In a study of computer aided gut directed biofeeback, 40 IBS patients who were refractory to conventional treatment underwent 4 half hour biofeedback sessions. Eighty percent of the patients learned to achieve progressively deeper levels of relaxation, and in 50%, the technique was reported helpful in controlling bowel symptoms on almost every occasion they became troublesome. The relaxation technique also resulted in significant reductions in global and bowel symptom scores. A control group was not included as it is not possible to administer placebo biofeedback but the study was restricted to treatment refractory patients (ie presumed placebo non responders). An independent group has also recently reported that biofeedback approach is beneficial in managing IBS[25]. In this uncontrolled study, all comers were entered and there was no attempt to select patients. Sixty patients received biofeedback with improvements in abdominal pain, urgency of defaecation and global well-being.

COMPLEMENTARY THERAPY IN IBS

A small open pilot study of acupuncture produced a significant improvement in general well-being and abdominal bloating[26]. There has not been any large controlled trial assessing any form of complementary treatment in IBS.

SUMMARY

Over the last two decades evidence has mounted to suggest that non-pharmacological therapies may be helpful in IBS. Like IBS trials of pharmacological therapies, the studies are often small and poorly controlled. The trials designed to account for a high placebo response rate have either compared non-pharmacological strategies with conventional treatment, or selected only patients who were placebo non-responders. There is broad agreement from the few adequately controlled trials that psychotherapy offers a clear additional therapeutic benefit over and above medical treatments[12]. Hypnotherapy appears to be particularly potent, and, in expert hands, produces consistently impressive therapeutic results even in patients refractory to conventional IBS treatment[17].

Most IBS patients respond to standard medical treatments. Psychological strategies are time consuming, labour intensive and generally unavailable to the relatively large numbers of patients who might benefit. Consequently, these therapies are best reserved for selected patients who fail to respond to reassurance and education, dietary manipulation, antispasmodics and low dose amitriptyline. Increasingly, patients are expressing a preference for non-pharmacological treatment

strategies. Where resources allow, it is not unreasonable to offer these patients a psychodynamic approach as first-line therapy. Ideally, the gastroenterologist should have access to a range of treatment strategies including diet, drugs, psychotherapy, hypnotherapy, relaxation therapy and biofeedback. New approaches such as gut directed, computer-aided biofeedback are particularly attractive as, unlike the interpersonal therapies, this mode of biofeedback does not require highly trained therapists and can be self-administered[24]. Whatever the choice of non-pharmacological therapy, there is evidence that both the doctor and patient can expect symptom improvement, especially when conventional medical measures have failed.

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