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Effect of Acupuncture on Irritable Bowel Syndrome: A Case Report

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ABSTRACT

On the basis of single-case reversal design, acupuncture and moxibustion treatment was performed on four IBS patients who did not show a favorable response to medical pharmacologic therapy. Improvement in abdominal pain, bloating and QOL was seen in three of four patients in all acupuncture and moxibustion treatment periods without dose escalation, and these symptoms became worse after ceasing acupuncture and moxibustion treatment. In two patients, the dose requirement of medication was decreased after two periods of acupuncture and moxibustion treatment. A possibility is suggested that acupuncture and moxibustion treatment can be a useful method of therapy to improve abdominal pain, bloating and QOL of IBS patients.

KEYWORDS

Irritable bowel syndrome; Abdominal pain; Acupuncture and moxibustion; Single case study; Reversal design.

1. Introduction

Irritable bowel syndrome (IBS) shows symptoms of functional chronic bowel movement disturbance with abdominal pain and abdominal discomfort 1-3). Its morbidity prevalence rate in advanced countries is about 1015% of general populations and is the highest in gastrointestinal diseases. Declining quality of life (QOL) in patients with IBS is significant4-6), which is sometimes reported to be lower than that of dialysis patients6). Social issues such as high medical cost for the treatment or eco nomic loss caused by sick leave are also profound so that patients with IBS are considered to have the most important therapeutic objectives in gastrointestinal diseases in the future1-3).

There are various reports regarding the therapeutic effects of acupuncture treatment to digestive systems7,8) and a few reports indicated that acupuncture and moxibustion treatment is clinically effective in patients with IBS 9,10).

In this study, we performed acupuncture and moxibustion treatment on four patients with IBS and evaluated the clinical effects of the treatment on abdominal symptoms, psychological state and their QOL using the method of reversal design11).

2. Subjects and Methods

Four patients were investigated. Two of them were males and two were females. Mean (±SD) age of the subjects was 53±23 years old. The characteristics of the four patients are shown in Table 1. In terms of disease duration, three patients had suffered for four years and one had suffered for eight years. Prior to enrollment, the purpose and procedure of the investigation were explained to all the subjects, and they were informed that they should take part in or leave this investigation on their own volition. Informed consent was obtained in writing form from all the patients. The protocol of the present study was approved from the Ethics Committee of Meiji University of Oriental Medicine.

In acupuncture and moxibustion treatment, each patient was diagnosed according to the TCM theory33) and acupoints were selected with consideration to the nature of the points. Treatment points and times of treatment session per intervention period are shown in Table 2. Needles used for acupuncture were 40 mm #16 (0.16mm in diameter) disposable stainless steel needles. Needles were retained for 10 minutes after deqi (dull or numb sensation around the needle) was obtained. No further stimulating technique such as twisting or tapping was given. Moxibustion was performed in the presence of yang deficiency to the meridian points which have an effect of warming yang on spleen or kidney function33) and also in which flaccidness and coldness were felt by palpation. In the moxibustion procedure, rice-grain sized moxa cones were lit and removed before they were burnt out (about 70% of the way burning) in order to avoid burn injury and they were applied in a row to treatment points until patients felt warm on the points. Approximately 10-20 moxa cones were applied at each point.

Reversal design11) in which observation period (period A) and intervention (acupuncture) period (period B) were alternatively repeated was employed in the present study (ABAB design). Frequency of acupuncture and moxibustion treatment was set at once or twice a week and twenty therapies were used, in principle. For patients who had some difficulty visiting the hospital often, ten therapies were set for one period. The non-treatment period between two treatment periods was basically longer than that of treatment periods. However, if a patient requested starting treatment because of aggravation of symptoms during the non-treatment period, the treatment period was started at this point. During the nontreatment period, at least once in two weeks, patients were given a check such as interview and palpation without acupuncture and moxibustion treatment. The conditions for two periods would be almost the same except for acupuncture and moxibustion treatment. During the observation period the patients were examined by their physicians in the same way as that before participation in this study, once in two weeks to one month. A drug medication regimen for bowel movement disturbance was to be constant during the observation period. However, if the symptoms of patients were reduced or exacerbated remarkably, the physicians could change the medication. In both the acupuncture clinic and the internal medicine clinic, patients were not provided with any guidance about daily life matters such as diet on an outpatient basis.

Patients had to record their bowel conditions. Those are abdominal pain, bloating, frequency of defecation and condition of the stool every day in our original bowel diaries. Intensity of abdominal pain was expressed in five levels of 0 to 4 (0: no pain, 1: slight, 2: medium, 3: considerable but endurable pain, 4: very strong and unbearable pain) and degree of bloating was expressed in three levels of 0 to 2 (0: no bloating, 1: light, 2: strong). Condition of the stool was expressed in five levels of liquid stool, loose stool, normal stool, hard and heavy stool and scybalum, and was reported after each bowel movement on the bowel diaries.

Patients were also encouraged to write down special events, if any, such as their accompanying symptoms, remarkable changes in their diet, serious events in their daily lives and so on.

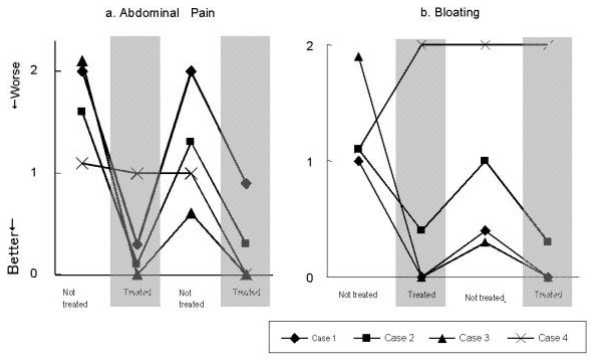

Figure 1. Changes in abdominal symptoms

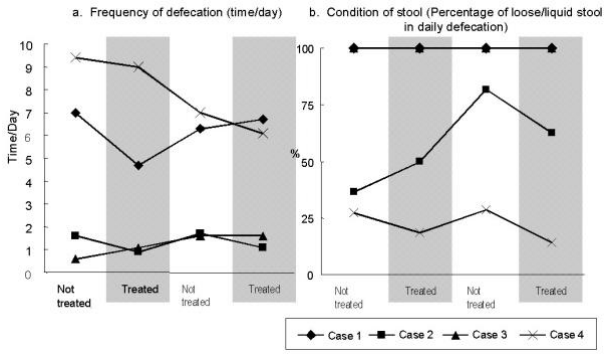

Figure 2. Changes in stool frequency and condition

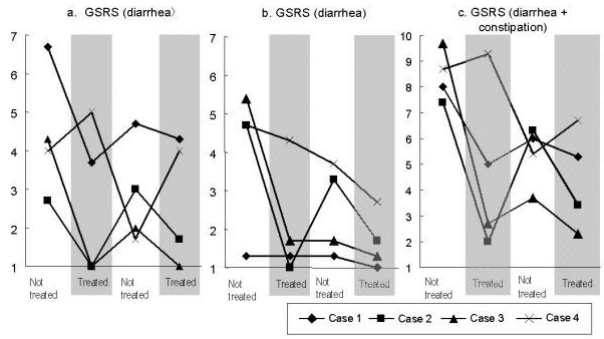

Figure 3. Changes in QOL

The patients recorded data on abdominal pain, bloating, frequency of defecation, and condition of the stool every day, and the mean values of those scores in a day were calculated from the data for a week and compared with those of the last week. As for GSRS and POMS, their conditions on the last week were compared with those of the past week at the start and end of the treatment period. For two periods of acupuncture and moxibustion treatment, if the values of each evaluation item decreased, even if not much, and the values for each item were lower than those of the first visit with two treatment periods, it was considered that the condition of the item was improved by the acupuncture and moxibustion treatment and that they had effect on the symptoms.

3. Results

Changes in all treatment and non-treatment periods of all four cases are shown below.

3.1 Abdominal Pain and Bloating

In cases 1, 2 and 3, abdominal pain and bloating were decreased during all treatment periods, and those in every non-treatment period were increased (Figs. 1a, 1b).

3.2 Bowel Conditions (Frequency of Defecation, Defecation Days and Condition of the Stool)

Changes in frequency of defecation, defecation days and condition of the stool are shown in Fig. 3. In case 2, the mean frequency of defecation in two periods of treatment decreased from 1.6 times a day to 0.9 times a day and from 1.7 times a day to 1.1 times a day and that in the non-treatment period was increased, but a pattern that was common to two periods of treatment was not found in cases 1 and 3 (Fig. 2a). As for the condition of the stool, the ratio of total frequency of loose stool and liquid stool to overall frequency in one day did not change, remaining at 100% for cases 1 and 3 (Fig. 2b).

3.3 QOL

In a scale of GSRS for diarrhea, which consists of liquid/loose stool, frequency of defecation and urgent desire of defecation, values for cases 1 to 4 in the nontreatment period before the treatment period were 6.7, 2.7, 4.3 and 4.0, respectively. However, in cases 1, 2, and 3, the values decreased for each treatment period and increased for each non-treatment period (Fig. 3a). The values for these three cases also changed to 4.3, 1.7, and 1.0, respectively after two periods of treatment, which were lower than those at the patient's first visit. Values for cases 1 to 4 in the constipation scale were 1.3, 4.7, 5.3 and 4.7, respectively during the non-treatment period before acupuncture and moxibustion treatment. Cases 2 and 3 decreased for each treatment period and in case 2 increased for each non-treatment period. In cases 1, 2 and 3, they were 1.0, 1.7, 1.3 and 2.7, respectively, which were lower than those at the patient's first visit with two periods of treatment (Fig. 3b). In cases 1, 2 and 3, the sum of scales of diarrhea and constipation decreased for each treatment period and increased for each non-treatment period, showing lower values with two treatment periods than those of the first visit (Fig. 3c). The diarrhea scale and sum of scales of diarrhea and constipation scores in case 4 became worse during the first treatment period and improved during the nontreatment period after a dose of medication was increased.

3.4 Psychological State

During the two periods of treatment, depression, or anxiety/tension of POMS was decreased in some patients and it was increased or stayed the same in other patients (Fig. 4). There was no common tendency during two periods of treatment. In terms of POMS, patients with more than and equal to a T score of 75 points, where the maximum is 85 points, need to see a doctor13). Depression in case 1 during the second treatment and non-treatment periods and anxiety/tension in case 4 during the first treatment period showed 85 points, respectively.

3.5 Changes in Medication Regimen

After two periods of treatment, the medication dose was reduced or medication was withdrawn in cases 1 and 3, whereas those in case 4 was increased.

3.6 Remarks Column

Each of case 1, during non-treatment period after the first treatment period and during the second treatment period, and case 4, during the first treatment period, had an unfortunate incident such as a traffic accident and hospitalization of a family member, which caused considerable distress including a sense of uneasiness and a sense of irritation. Furthermore, case 4 often complained of discomfort in the anal region that accompanied the urge to defecate, along with abdominal pain and bloating.

There was no remarkable change in their eating habits.

4. Discussion

According to Rome II criteria, IBS is defined to be diagnosed based on at least 12 weeks or more, which need not be consecutive, in the previous 12 months where there was abdominal pain and abdominal discomfort that had two out of three of these features: (a) Relieved with defecation; and/or (b) Onset associated with a change in frequency of stool; and/or (c) Onset associated with a change in form of stool3). IBS is considered a biopsychosocial disorder resulting from a combination of 3 interacting mechanisms: pshychosocial factors, altered motility and transit, and increased sensitivity of the intestine or colon1,3,14). In a common treatment for IBS, an anticholinergic agent, regulator of gastrointestinal motility, laxative, antiflatulent, antidepressant or antianxiety agent is given and if a patient does not respond to the medication, psychotherapy is sometimes practiced1,3). Recently, new drugs as policarbophil calcium have been used for IBS3), but the treatment has not been established. This study was performed in order to investigate the efficacy of acupuncture and moxibustion on IBS patients.

5. Conclusion

1) On the basis of single-case reversal design, acupuncture and moxibustion treatment was performed on four IBS patients who did not show a favorable response to medical pharmacologic therapy.

2) Improvement in abdominal pain, bloating and QOL was seen in three of four patients in all acupuncture and moxibustion treatment periods without dose escalation, and these symptoms became worse after ceasing acupuncture and moxibustion treatment.

3) In two patients, the dose requirement of medication was decreased after two periods of acupuncture and moxibustion treatment.

4) A possibility is suggested that acupuncture and moxibustion treatment can be a useful method of therapy to improve abdominal pain, bloating and QOL of IBS patients.

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