Relationship among symptoms, mood, and personality traits in patients with interstitial cystitis/bladder pain syndrome

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ABSTRACT

Objective: We have proposed an analysis of personality traits to classify patients with interstitial cystitis/bladder pain syndrome (IC/BPS) to determine the association between symptoms, mood, and personality traits in IC/BPS patients.

Materials and methods: A total of 57 patients (7 males and 50 females) diagnosed according to the National Institute of Diabetes and Digestive and Kidney Diseases criteria were recruited from December 2005 to June 2006. All of these patients were newly diagnosed cases of IC/BPS, and the evaluation was made during the admission after hydrodistension. This study used the O’Leary–Sant Symptom Index and Problem Index (interstitial cystitis system index and interstitial cystitis problem index) to record the clinical symptoms of all IC/BPS patients. Basic Personality Inventory and Back Anxiety Inventory were used to analyze personality traits and mood status.

Results: IC/BPS patients have personality traits of depression and hypochondriasis, and show moderate anxiety mood. The duration of the symptoms is longer in depressive IC/BPS patients. Significant positive correlations were found among pain and anxiety mood, symptoms and interpersonal problems, and problem index and depression, respectively. Patients with severe anxiety mood status have abnormal personality traits such as depression, anxiety, self-depreciation, and others.

Conclusions: IC/BPS patients frequently exhibit several mental health disorders and negative personality traits. Therefore, in addition to targeting the bladder pathological condition, psychological intervention focusing on personality traits and anxiety mood status should be provided to improve quality of life of IC/BPS patients.

1. Introduction

Interstitial cystitis/bladder pain syndrome (IC/BPS) is a chronic disease characterized by pelvic pain and lower urinary tract symptoms. 1, 2 When symptoms become chronic, patients tend to develop generalized anxiety and helplessness. 3, 4 Recent studies showed that IC/BPS may be associated with other comorbid diseases, such as irritable bowel syndrome, fibromyalgia, or mental health disorders. 5, 6 The prevalence of a combination of depression and panic attacks in IC/BPS patients is high, and there is an increase in patients seeking psychological treatment. 7

A recent study tried to develop the phenotyping classification system, and direct the treatment strategy for IC/BPS patients. 10 Psychological domains including depression, anxiety, and mood catastrophizing that function outside of the bladder predict a significant impact on IC/BPS symptoms, especially on bladder pain, as a hallmark symptom of IC/BPS. However, almost 60% of IC/BPS patients had continuous or unremitting pain, whereas almost 90% had given up their social activities. 11 To date, no curative treatment for IC/BPS has yet been found and no adequate method has yet been found to treat it, therefore, adaptation to the disease including management of mental health disorders has become an important quality-of-life care for IC/BPS patients. The aim of our study is to investigate the association between symptoms, mental health disorders, and personality traits in IC/BPS patients.

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2. Materials and methods

2.1. Inclusion and exclusion criteria

This is a self-reported cross-sectional study. A total of 57 patients (7 males and 50 females) were recruited from a regional hospital in Central Taiwan from December 2005 to June 2006. The inclusion criteria and exclusion criteria were elicited according to the National Institute of Diabetes and Digestive and Kidney Diseases criteria,12 and the confusible disease, benign prostatic hyperplasia in males, was also excluded (based on volume measured by transrectal ultrasound > 40 gm). The clinical pictures were evaluated using symptoms of frequency, urgency, pelvic pain, and cystoscopic appearance of glomerulations or ulceration without definite causes. All of these patients were newly diagnosed cases of IC/BPS, and the psychological evaluation was performed during the admission after hydrodistention.

Cross-sectional data—including age, sex, symptom duration, severity of bladder symptoms, and psychiatric problems—were assessed using demographics and validated questionnaires. The bladder symptom measures consisted of validated self-reported instruments including visual analog pain (VAS pain) and urgency scale (VAS urgency) on separate analog scales from 0 to 10. IC/BPS-specific questionnaires were performed using O’Leary—Sant Symptom Index and Problem Index.13 Psychiatric mood domains were assessed by Back Anxiety Inventory (BAI). Affective personality styles were assessed by validated instruments such as Basic Personality Inventory (BPI). A clinical psychologist analyzed each participant’s personality traits (BPI) and anxiety mood status (BAI).

2.2. Measures

2.2.1. O’Leary—Sant Symptom Index and Problem Index

The O’Leary—Sant Symptom Index and Problem Index Questionnaire is designed to measure the severity of symptoms and their impact on patients with IC/BPS. It is composed of eight questions and two indices. The “symptom index” consists of four questions pertaining to the quantity of urinary and pain symptoms. The “problem index” includes four questions regarding the degree to which patients are bothered. Each question is graded from 0 to 4 or 5. Higher scores indicate more severe impairment.

2.2.2. Basic Personality Inventory

The Chinese version of the BPI was used in this study.14,15 The BPI is a multiphasic personality inventory intended for use with both clinical and healthy populations to identify sources of maladjustment and personal strengths. The BPI consists of 150 true/false items and 10 substantive scales, which are Depression, Anxiety, Social introversion, Self-Depreciation, Interpersonal Problems, Impulse, Deviation, Hypochondriasis, Persecutory Ideas, and Thinking Disorder. The raw score of each scale is transformed into T score by norm. When the T score of each item exceeds 60 points, it means that the individual has a manifest personality trait in this item.

2.2.3. Beck Anxiety Inventory

The BAI consists of 21 items, each describing a common symptom of anxiety, such as feeling hot, unable to relax, fear of worst happening, unsteady, terrified and afraid, feeling of losing control, scared, hot and cold sweats, uneasiness, and difficulty in breathing. The patient is asked to rate how much he or she has been bothered by each symptom over the past week on a 4-point scale, with scores ranging from 0 to 3.

The items are summed to obtain a total score that can range from 0 to 63. A total score between 0 and 7 indicates normal mood status, a score of 10—15 indicates mild anxiety mood status, 16—25 indicates moderate anxiety mood status, and more than 26 indicates severe anxiety mood status.

2.3. Statistical analysis

The data were analyzed using the SPSS 21.0 software (SPSS Inc., Chicago, IL, USA). We calculated the means and standard deviations for the VAS pain scale, urgency scale, O’Leary—Sant Indices, BAI, and each subscale of BPI. Pearson correlation was used to measure the correlation between IC/BPS symptoms and personality traits and anxiety state. Moreover, we examined the personality traits among IC/BPS patients according to anxiety score using the following categories—<7 (normal mood status), 10—15 (mild anxiety mood status), 16—25 (moderate anxiety mood status), and >26 (severe anxiety mood status)—by means of a general linear model.

3. Results

3.1. Demographics, symptom duration, and severity of bladder symptom

During a period of 7 months (December 2005 to June 2006), 50 female and seven male patients were enrolled into the study. The mean age of patients with IC/PBS in this study was 40.0 ± 11.9 years, and the mean duration of symptoms was 60.8 ± 69.1 months. The mean VAS pain and VAS urgency were 5.5 ± 2.8 and 5.9 ± 2.4, respectively. For interstitial cystitis symptom index and interstitial cystitis problem index, the average scores were 11.4 ± 3.7 and 9.7 ± 3.3, respectively.

3.2. Depression, hypochondriasis personality trait, and bladder symptom

In our study population, the result of BPI analysis indicated that IC/BPS patients had significant depression (T score = 62.5 ± 4.7) and hypochondriasis (T score = 66.2 ± 2.3) traits but not anxiety traits (T score = 58.3 ± 3.5). Furthermore, we divided the patients according to depression and hypochondriasis scores of BPI, using the score of >60 as the criterion. We found that the course of disease was significantly longer in individuals with evident depression traits (mean = 74.5 ± 8.8, n = 32) than those without depression traits (mean = 47.1 ± 5.7, n = 25; F1,55 = 179.09, p < 0.05). However, there is no difference in terms of symptom duration between patients with and without hypochondriasis personality traits.

The Pearson correlations of IC/BPS symptoms and personality traits are shown in Table 1. The depression personality trait was statistically significant with problem index (γ = 0.27, p < 0.05) and showed a positive trend in symptom index. Moreover, the association between interpersonal problems personality traits, and symptom index was statistically significant (γ = 0.29, p < 0.05). However, bladder symptom is not associated with the depression or anxiety personality trait.

3.3. Anxiety mood status and bladder symptom

BAI analysis found that IC/BPS patients had moderate anxiety mood status (mean = 20.8 ± 12.9). The Pearson correlations of IC/BPS symptoms and anxiety mood status are shown in Table 1. We found that the pain scale was significantly associated with anxiety mood status (γ = 0.31, p < 0.05).

3.4. Anxiety mood status and personality traits

We further divided the participants into four groups (normal mood status, mild, moderate, and severe anxiety mood status).
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