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The Relation of Enuresis and Irritable Bowel Syndrome with Premature Ejaculation: A Preliminary Report

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ABSTRACT

Introduction: In this retrospective study, we reviewed the outpatient data of patients with premature ejaculation to investigate the association of that disorder with irritable bowel syndrome and a positive history of enuresis.

Materials and Methods: All patients with premature ejaculation who had presented to the author's office from March 2002 to June 2003 were selected. Their medical records were reviewed, and data including symptoms of irritable bowel syndrome, history of enuresis, and psychologic disorders were collected. The results of our analysis were compared with the worldwide reported prevalence of enuresis and irritable bowel syndrome in the male general population.

Results: Forty-one consecutive patients were asked whether they had ever experienced irritable bowel syndrome, enuresis, psychologic problems, and/or the feeling of tickling or sexual pleasure at ejaculation. Of those 41 patients, 18 reported the symptoms of irritable bowel syndrome (43.9% versus 10% in the general population; $P < .001$). A reliable answer about the history of enuresis was obtained from 35 patients, 14 of which had experienced that disorder (40% versus 10% in the general population; $P < .001$). Of those 35 patients, 6 (17.4%) had experienced both irritable bowel syndrome and enuresis. Twenty-two of 37 patients (59.5%) reported psychologic problems including stress, agitation, and obsession-compulsive disorder.

Conclusion: The results of this study suggest the association of premature ejaculation with irritable bowel syndrome and enuresis, which in turn may indicate that those disorders share a common neurologic pathophysiology. A special attention of the physicians to the symptoms of these diseases together may be of great help for the patients.

KEY WORDS: premature ejaculation, irritable bowel syndrome, enuresis

Introduction

Premature ejaculation (PE) is a common problem with a prevalence reported to be as high as 35% in men.[1-3] Although PE has in the past been attributed only to psychologic problems, the complete pathophysiologic mechanism of that disorder remains undefined.[1,4] However, the oversensitivity of the penis to stimulation (the effect of which can be controlled by using local anesthetic sprays or a condom) or the effectiveness of antidepressants in the treatment of PE suggests a central disorder as the cause.[1,4-8]

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Patients with irritable bowel syndrome (IBS) and enuresis also benefit from treatment with antidepressants,[9] and the oversensitivity of the organs targeted in those disorders suggests the pathophysiologic mechanism of the disease.[8] Electrophysiologic studies have shown that an abnormal reaction of the penile skin to sensory stimulation and the resultant response of the central nervous system are characteristic of patients with PE.[4,8]

The association of IBS with urinary disorders and PE, if based on a common mechanism for all 3 disorders, is reasonable,[8,10] although further research to confirm that theory is required. This review of outpatient data was performed to investigate the frequency of IBS and a positive history of enuresis in patients with PE.

Materials and Methods

In this retrospective study, all patients with PE who had presented to the author's office in Tehran, from March 2002 to June 2003, were selected. Their records were reviewed, and the following data were collected: symptoms of IBS, history of enuresis, mood and other psychologic disorders, a feeling of tickling or sexual pleasure in the frenulum at ejaculation, and the results of sensory examination of genitalia in which very gentle touches of the examiner's finger and a wisp of cotton were used to assess the patient's subjective perception of the sensitivity of the frenulum and glans as opposed to the abdominal skin. In this study, IBS was defined according to Rome II criteria,[11] which specifies that the patient must have experienced at least 3 months of continuous or recurrent abdominal pain or discomfort that is relieved by defecation and/or is associated with a change in the frequency or consistency of stool, plus 2 or more of the following symptoms that occur at least one-fourth of the time: altered stool frequency, form, or passage; the passage of mucus; and bloating or abdominal distention. Enuresis was defined as bedwetting after the age of 3 years.[12] Patients in whom a history of enuresis and IBS were not confirmed because of vague or unreliable answers were excluded from the data analysis. The prevalence of enuresis and IBS in general population are 10% and 10%, respectively.[8,13] The results of this study were compared with those statistics by means of z approximation. Data analyses were performed with SPSS software (Statistical Package for the Social Sciences, version 11.5, SPSS Inc, Chicago, Ill, USA). A P value of less than 0.05 was considered significant.

Results

From among 1150 patients who presented for the treatment of urologic problems, 72 (6%) had experienced PE. The last 41 consecutive patients had been asked whether they had experienced symptoms of IBS, enuresis, a psychologic disorder, and/or the feeling of tickling or sexual pleasure at ejaculation. Of those 41, 18 reported IBS (43.9% versus 10% in general population; $P < .001$). A reliable answer about the history of enuresis was obtained in 35 patients, and 14 of those responses were positive for the disorder (40% versus 10% in general population; $P < .001$). Of the 35 patients who reported enuresis, 6 (17.4%) also reported IBS. Twenty-two (59.5%) of 37 patients reported psychologic problems including stress, agitation, and/or obsession-compulsion.

Thirty-three patients had properly answered the question about experiencing a state of sexual pleasure or a tickling sensation in the frenulum at ejaculation, and 17 (51.5%) of those responses were "yes." The response to touching the frenulum was stronger than that to touching the glans, penile shaft, or abdomen in 20 (54.1%) of 37 subjects, and 9 (24.3%) subjects reported that their response to touching the glans was stronger.

Discussion

Premature ejaculation is a prevalent problem[1,2] that elicits concern about impotence in men and can cause dissatisfaction in their sexual partner and conflict in that relationship.[1,3] The prevalence of PE is reported to be as high as 35% in some studies.[1,3,4] Men without PE can usually voluntarily postpone ejaculation after penetration for a time sufficient to enable the orgasm of the sexual partner, but that control is absent or too weak in men with PE.[1,4] Some individuals with PE ejaculate before sexual contact occurs, and as a result, an erection firm enough to enable intercourse cannot be sustained. Achieving pregnancy may be difficult for some couples as a result.[1-3]

Various authors have defined PE as the inability to postpone ejaculation until the sexual partner's orgasm has occurred in at least 50% of

sexual contacts involving penetration.[1,3] Premature ejaculation is considered a primary disease if the patient has experienced episodes of the disorder during his first sexual encounters. Premature ejaculation that begins after years of sexual activity may be caused by a urinary tract infection, conflict between partners, or neurologic disorders.[1,14] The presenting complaint of some patients with PE may be irrelevant; instead of addressing their sexual dysfunction, they may refer to the small size of their penis or a concern about prostate disease, infertility, or low-back problems.[1,14]

The cause of PE was thought in the past to be psychologic in origin, and treatment protocols usually consisted of psychotherapy and antidepressant drugs.[1,4] The effectiveness of such therapy and the correlation of PE with psychologic stress have supported that approach.[1,5-7,9] However, recent studies and neurophysiologic investigations suggest that this disorder may have an organic cause. [4,9] The oversensitivity of the penis to touch and vibrating stimulation or the overactivity of ejaculation center in the brain as a result of stimulation of the patient's genitalia may contribute to PE.

Investigations with positron emission tomography have shown that the right prefrontal cortex (in contrast to other cortical areas) exhibits increased activity during orgasm. That phenomenon can be the cause of the activation of subcortical portions of the brain that potentiate ejaculation. Thus dysfunction in the right prefrontal cortex and its impact on the subcortical area may be a cause of PE.[4,9,15] Surprisingly, positron emission tomography has revealed that in patients with IBS, blood circulation increases in the prefrontal cortex in association with rectal distention, but in healthy individuals, blood circulation increases in the anterior cingulate gyrus when the rectum is distended. Such hyperemia in the frontal lobe can cause increased alertness as a result of the activation of a vigilance network. It seems that the anterior cingulate gyrus and frontal lobe are mutually inhibitory, and the dysfunction of this system may cause increased afferent sense input from autonomic nervous system.[8,10]

IBS, however, seems to be associated with sexual dysfunction caused by disease-related stress and depression, which in turn can potentiate erectile dysfunction and PE.[10] However, the association of IBS with sexual dysfunction remains unsupported by sufficient evidence, although mood disorders have been reported in about 80% of patients with IBS.[8] It has been also demonstrated that a low threshold of sensory neurons correlates with increased motility of the intestine and colon in patients with IBS.[8]

There are also clues about the pathophysiology of enuresis and its association with PE. Disorders in central nervous system, particularly that of pontine reticular formation, may cause a lack of awareness of bladder distention and may contribute to the dysfunction of pelvic floor sphincters,[6,16-19] which may cause, for example, the relaxation of bladder sphincters during sleep. Furthermore, a delay in the maturation of sensory-motor neurons as well as cognitive dysfunction are prevalent in children with enuresis.[18,20,21] Attention deficit and hyperactivity disorder and encopresis (10% to 25%) are also not uncommon in that pediatric population.[22]

Treatments of PE, IBS, and enuresis have similar features that address the common pathophysiologic characteristics of those disorders. Opioids are effective in the treatment of PE as well as IBS and enuresis.[23,24] The effectiveness of using local anesthetics and condoms to suppress the sensory impulses from the penis to the central nervous system indicates an oversensitivity of the penile skin, a mechanism characteristic of enuresis and IBS.[1,25] Drugs such as antidepressants[5-7] or behavioral conditioning methods such as frequent intercourse, step-by-step sexual contact, and/or compression of the penis[1,26] may be successful in treating PE.

The methods described above affect the central nervous system. Antidepressants and conditional methods are also useful in the treatment of enuresis,[9,10,27] and antidepressants may help to control IBS by suppressing neural waves from the intestine to the brain.[7-10] The elimination of some special foods from the daily diet of patients with IBS[28] and considering allergens and hypercalciuria as potential causes of enuresis[20,29,30] indicate that local sensory stimulation can influence IBS and enuresis.

The results of this study are limited by a lack of retrospective design; the small, nonrandomized sample size; and the lack of confirmed diagnoses (especially in patients with concomitant psychologic problems), and as a result, the

association of IBS and/or enuresis with PE cannot be definitively established. Nevertheless, the frequency of IBS, enuresis, and psychologic problems in subjects with PE was significant in our study, which suggests that those disorders share common pathophysiologic features.

Conclusion

Weak control of target organs by the cerebral cortex and the abnormally low threshold of sensory neurons in the intestine and genitalia may be responsible for the severe reaction of the central nervous system in patients with PE, IBS, or enuresis. It thus seems reasonable that patients with those characteristics would be susceptible to all 3 disorders. However, the association of PE with IBS and enuresis suggested in this study requires additional research. Physicians who remain alert for the symptoms of those disorders and consider the possibility of a common pathophysiologic mechanism of action will provide great help for their patients so afflicted.

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