Sexual Dysfunction in Interstitial Cystitis

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Key Words

Interstitial cystitis • Bladder pain syndrome • Sexual dysfunction

Abstract

Background/Aims: Interstitial cystitis (IC)/bladder pain syndrome (BPS) is a debilitating disease characterized with urgency, frequency, and pelvic pain affecting especially women. Sexual dysfunction in female patients with IC/BPS consists of dyspareunia, altered sexual desire and orgasm frequency and insufficient lubrication is reported to negatively affect the patient's quality of life. In the present study, we aimed to determine the association between IC/BPS and sexual dysfunction and improvement in sexual dysfunction related to given treatments. **Methods:** A PubMed/Medline and EMBASE search was conducted using keywords: "interstitial cystitis", "sexual dysfunction", and "bladder pain syndrome". **Conclusion:** Several studies have been conducted to determine the relation between IC/BPS and sexual dysfunction. And also limited studies focusing on IC/BPS specific treatments reported significant improvements in sexual function after either oral or intravesical treatment. However, given the used different questionnaires, study protocols, patient characteristics, previous treatments and follow-up period, it is not possible to make a head-to-head comparison of the treatment effects on sexual function. Further, randomized controlled studies are needed to confirm these results and make a comparison between effects of various treatment modalities on sexual functioning in IC/BPS.

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Introduction

Interstitial cystitis (IC)/bladder pain syndrome (BPS) is a debilitating disease characterized with urgency, frequency, and pelvic pain [1, 2].

The etiology of IC/BPS still remains unclear however inflammation, urothelial dysfunction mast cell activation and autoimmunity are thought to act in disease pathogenesis. Cystoscopy and hydrodistension and biopsy under general anesthesia are the first choice at diagnosis [1]. There are several treatment alternatives such as pharmacotherapy, intravesical instillations and surgical procedures [3]. IC/BPS may result in sleeping disorders, depression, anxiety, stress and sexual dysfunction [4].

Sexual dysfunction seen in females with IC/BPS is reported to negatively affect the patient's quality of life [2]. Sexual dysfunction in female patients with IC/BPS consists of dyspareunia, altered sexual desire and orgasm frequency and insufficient lubrication [5].

In the present study, we aimed to determine the association between IC/BPS and sexual dysfunction and improvement in sexual dysfunction related to given treatments.

Material and Methods

A PubMed/Medline and EMBASE search was conducted using keywords: "interstitial cystitis", "sexual dysfunction", and "bladder pain syndrome", without any restrictions concerning date of publication. All studies that consisted of a relatively adequate number of patients with IC/BPS and fulfilled the inclusion criteria – analysis of sexual dysfunction in patients diagnosed with and treated for IC/BPS – were included in the review.

Results

There are several studies in the literature in regards to IC/BPS and sexual dysfunction. The disease, previously and frequently named as interstitial cystitis, has several definitions in various studies such as bladder pain syndrome, painful bladder syndrome and interstitial cystitis. We used the term IC/BPS to define the disease in various studies.

Sexual intercourse causing pain in patients with IC/BPS was considered as a strong predictor of quality of life. Up to 54 % of women with IC/BPS were found to often avoid sexual intercourse with their partners and IC/BPS was found correlated with sexual dysfunction [5, 6].

Bogart et al. [2] conducted a study based on a telephone survey with 146,231 who have bladder symptoms or diagnosed with IC/BPS. Among 985 women fulfilling inclusion criteria, they found that 88% of patients with a sexual partner have one general sexual dysfunction symptom for last 4 weeks and 90% reported any IC/BPS specific sexual dysfunction symptom. And also IC/BPS symptom severity was found associated with general and IC/BPS specific sexual dysfunction ($p < 0.0001$).

In another study by Gardella et al. [7] included 47 newly diagnosed IC/BPS patients and 188 controls, FSFI score of IC/BPS patients was found significantly lower than the controls (16.85 ± 8.73 vs. 27.34 ± 6.41 , $p < 0.0001$). The rates of overall spontaneous or provoked vulvodynia in IC/BPS were 23.4 or 74.5%, respectively. The rate of dyspareunia was significantly higher in IC/BPS patients compared to controls (87.2 vs. 5.9%, $p < 0.001$). IC/BPS had also found detrimental to sexual intercourse frequency such 23.4% of IC/BPS patients had no sexually activity during a year prior to the study. However, this rate was 9% in the control group. A significant linear trend representing diminished sexual activity among women diagnosed with IC/BPS compared to controls was observed ($p < 0.0001$).

In another study evaluating female sexual dysfunction (FSD) in IC/BPS, IC/BPS was found related with fear of pain and pelvic pain during sexual intercourse in adolescence and adulthood. The reported rates of fear of pain and pain during sexual intercourse in adolescence and adulthood were significantly higher in IC/BPS patients than the controls, 13.9–39.8% and 50.2–67.2% vs. 8.3–21.1% and 13.4–18% ($p = 0.018$, $p = 0.001$, $p < 0.001$, and $p < 0.001$). A decline in sexual desire and orgasm frequency was also observed in IC/BPS patients after the diagnosis of IC/BPS. FSD scale mean value was found significantly higher in IC/BPS patients compared

to controls (18.5 ± 14.3 vs. 8.3 ± 10.2 , $p < 0.001$). In FSD scale, a score of 15 and more suggests distress associated with sexuality [8].

Ottem et al. [9] reported a significantly higher rate of dyspareunia in IC/BPS patients than the controls (72 vs. 5%, $p < 0.0001$). Comparison of FSFI between IC/BPS patients and controls revealed worsening in sexual dysfunction in IC/BPS patients (20.2 ± 9.6 vs. 29.9 ± 6.3 , $p < 0.0001$).

In another study, it has been suggested that adding a sexual dysfunction domain to the urinary, psychosocial, organ specific, infection, neurologic or systemic, and tenderness system which use to categorize the phenotype of IC/BPS patients might improve the association with IC/BPS symptom severity. They stated that sexual dysfunction had a significant impact on IC symptom index scores, pain scores and quality of life [10].

Yoon et al. [11] conducted a study focusing on correlations of IC/BPS and female sexual activity. They found that frequency, urgency and vulvodynia were positively correlated with inhibited sex life ($r = 0.403$, $r = 0.346$ and $r = 0.259$, respectively).

In their study, Lee et al. [12] evaluated the relation between lower urinary symptoms and dyspareunia in IC/BPS. Of 156 patients 61% reported dyspareunia during or after sexual intercourse. Patients with dyspareunia was found to have more severe urological pain compared to patients without dyspareunia ($p = 0.02$).

During the literature review we observed that improvement in IC/BPS symptoms by treatment was correlated with sexual dysfunction.

Nickel et al. [13] studied the improvement in sexual functioning in IC/BPS patients who received 300 mg pentosan polysulfate sodium for 32 weeks. They reported a significant improvement in sexual functioning scores at 8th, 16th, 24th and 32nd week of treatment. The mean change in Medical Outcomes Study Sexual Functioning Scale score was 8.9 ($p = 0.0054$). The improvement in sexual functioning at the end of the study was also found correlated with symptom resolution ($r = -35$, $p = 0.0002$).

In another study conducted with 103 IC/BPS patients receiving second line intravesical hyaluronic acid therapy, the researcher used the short form of the Pelvic Organ Prolapse/Urinary Incontinence Sexual Function Questionnaire (PISQ-9) to evaluate sexual dysfunction. Significant improvements in PISQ-9 scores from baseline were noted after 1 month and 6 months of treatment. According to PISQ-9 items, significant improvements were recorded in terms of dyspareunia, negative reactions during sexual intercourse and intensity of orgasms.

They also observed a negative correlation between PISQ-9 score and the duration of IC/BPS symptoms and a positive correlation between the changes in PISQ-9 scores and the reduction in IC/BPS symptom index after treatment [14].

Intravesical treatment for IC/BPS with lidocaine, heparin and sodium bicarbonate was also found efficacious in pain relief related to sexual intercourse. Welk et al. [15] reported the outcomes of 23 sexually active IC/BPS patients treated with an intravesical solution of lidocaine, heparin and sodium bicarbonate. FSFI pain domain scores before and after the instillations were 1.9 ± 0.9 and 3.7 ± 1.6 , respectively ($p < 0.001$). And a resolution in dyspareunia was observed in 57% of the patients.

In another study conducted with relatively small patient population, intravesical treatment with BCG has been suggested to improve dyspareunia in patients with refractory IC/BPS. The improvement was greater at post-treatment 12th than 24th and 30th months (65.2 vs. 58.3 and 36.1%) [16].

Conclusion

IC/BPS has detrimental effects on health related quality of life and sexual dysfunction is a paramount domain in this issue. There are several types of treatment modalities in IC/BPS that has shown to result in symptom relief as well as sexual functioning like oral or intravesical therapies. However, given the used different questionnaires, study protocols, patient characteristics, previous treatments and follow-up period, it is not possible to make a head-to-head comparison of the treatment effects on sexual function. Further, randomized controlled studies are needed to confirm these results and make a comparison between effects of various treatment modalities on sexual functioning in IC/BPS.

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