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A clinical briefing of (not so) rare chronic pain syndromes in gynecology: Interstitial cystitis and vulvodynia

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ABSTRACT

Chronic pain has been currently defined as a pain that persists more than six weeks, despite of prescribed treatments. Interstitial cystitis or bladder pain syndrome is a chronic pain syndrome which implies urinary and pelvic pain, accompanied by voiding symptoms. The discomfort persists for more than six weeks and is apparently not related to any infectious or other identifiable causes. Patients complain of different voiding symptoms, which coexists with variable located pelvic pain. The voiding symptoms vary from urinary frequency, urgent need to void to pelvic pressure related filling to emptying of the urinary bladder. The unpleasant sensations described by the patients are: pain, pressure or discomfort and they are inevitably related to the urinary bladder. Many of these patients have associated pain syndromes, like: chronic fatigue syndrome, irritable bowel syndrome, fibromyalgia or other emotional conditions as depression and anxiety. Vulvodynia (or localized vulvar pain syndrome or vestibulodynia or vulvar vestibulitis) is defined as a vulvar pain that lasts for more than three months and has no identifiable cause and is considered a diagnostic of exclusion. Patients present with vulvar pain as major complaint. This pain is related to contact with the vestibular region of the vulva: during intercourse, prolonged sitting, bike riding, tight clothing, tampon insertion. Clinical diagnosis is based on several criteria: pain with vestibular localization (with or without clitoridean pain), provoked by pressure-point testing, with no other established cause and lasts for more than three months.

Keywords: chronic pelvic pain, bladder pain syndrome, vulvodynia

INTRODUCTION

Chronic pelvic pain syndromes are encountered in current gynecological practice, most frequent as dysmenorrhea and dyspareunia, and their main causes are endometriosis and chronic pelvic infections. Clinicians should also be aware of less frequent, but nevertheless disturbing, chronic pain syndromes, such as bladder pain syndrome (BPS) and vulvodynia (or vestibular pain syndrome).

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Chronic pain has been currently defined as a pain that persists more than six weeks, despite of prescribed treatments. The specific cause is not clear and a multidisciplinary team has to resolve the clinical puzzle, because achieving pain relief is difficult, so a complex management is the rule, even though results are not very encouraging.

INTERSTITIAL CYSTITIS

Interstitial cystitis (IC) or BPS is a chronic pain syndrome which implies urinary and pelvic pain, accompanied by voiding symptoms. The discomfort persists for more than six weeks and is apparently not related to any infectious or other identifiable causes (1).

Etiology of IC/BPS is not yet known, several hypotheses are currently accepted such as an increased urothelium permeability, due to perturbations of the glycosaminoglycan layer of the bladder epithelium; repeated urinary infections; chronic inflammation; inhibition of uroepithelial cells proliferation; neurogenic inflammation or pelvic organ cross-sensitization (2).

Patients complain of different voiding symptoms, which coexists with variable located pelvic pain. The voiding symptoms vary from urinary frequency, urgent need to void to pelvic pressure related to filling or emptying of the urinary bladder. The unpleasant sensations described by the patients are: pain, pressure or discomfort and they are inevitably related to the urinary bladder (3). Many of these patients have associated pain syndromes, like: chronic fatigue syndrome, irritable bowel syndrome, fibromyalgia or other emotional conditions such as depression and anxiety (4). Many patients develop an important concern regarding a possible predisposition to urinary bladder cancer (which is not the case).

Clinical diagnosis implies a rigorous assessment of the history and physical examination, both gynecological and urological. Urinalysis, urine culture and cytology complete the diagnosis. Assessing the history may differentiate IC/BPS from overactive bladder, in which case urinary urgency, urinary frequency and nocturia are specific symptoms. Some patients with IC/BPS experience pain during progressive filling of the bladder, but other experience pain during the voiding process. Some patients have to void very frequently (every 30 minutes), in order to avoid the discomfort of progressive, painful bladder filling; this behavior obviously affects the patients social functioning, sleeping pattern and quality of life. Several patients observe accentuation of symptoms after ingestion of several foods of beverages (4).

During the gynecological exam we may find tenderness of the anterior vaginal wall and pelvic floor muscle tenderness.

In the diagnostic approach of IC/BPS with associated bladder hydrodistension, cystoscopy is recommended by certain specialists, alongside with urological evaluation and biopsy. Cystoscopy sometimes describes a specific lesion, characteristic of the Hunner subtype of IC/BPS: erythematous, stellate bladder lesions, localized near the bladder trigone (5).

If a patient presents with one or more than the subsequent symptoms and/or signs or personal history, a complete diagnostic evaluation is mandatory: pain and urinary incontinence, hematuria, incomplete bladder emptying, pelvic organ prolapse, neurologic disorder that may affect bladder function, prior pelvic radiation or trauma of the pelvic region. The diagnostic evaluation will include: imaging, urodynamic studies and laparoscopy (6). Laboratory diagnosis includes repeated negative urinalysis, urine culture and cytology.

Differential diagnosis has to be made with several diseases, as follows:

- Infections (with common enteric germs or with bacteria from the genital tract – *Chlamydia trachomatis, Mycoplasma genitalium, Mycoplasma hominis, Ureaplasma urealyticum, Ureaplasma parvum, Corynebacterium urealyticum, Mycobacterium tuberculosis,* Candida species)
- Urinary bladder carcinoma or carcinoma in situ
- Viral infections (herpes virus or human papilloma virus)
- Urological pathology (bladder stones, bladder neck obstruction, neurogenic outlet obstruction, lower urethral stone, urethral diverticulum, overactive bladder)
- Gynecological pathology (urogenital prolapse, endometriosis, vaginitis, genital cancer – vaginal, cervical, uterine, ovarian)
- Pudendal nerve entrapment
- Pelvic floor muscle-related pain syndrome

Therapeutic approach is complex, with the main aim of pain relief, so a multimodal therapy has to be implemented, including the limitation of the uroepithelial irritation (avoiding several foods and beverages, local applying of heat or cold), the neuropathic pain (tricyclic antidepressants, pentosan polysulfate sodium or bladder instillations) and the associated pelvic floor disfunction, as well as cognitive-behavioral therapies, but results are debatable and the effect installs slowly (7).

VULVODYNIA

Vulvodynia or localized vulvar pain syndrome or vestibulodynia or vulvar vestibulitis is defined as a vulvar pain that lasts for more than three months

and has no identifiable cause. Although etiology is not clear, vulvodynia may be a consequence of a local chronic inflammatory response, triggered by an initial event, which may be an infection (repeated yeast infections, recurrent vaginosis), an allergic reaction or a trauma. This inflammatory reaction is followed by a hyperproliferation of nerve fibers in the vestibulum, which consequently may induce a central sensitization of pain (allodynia being the clinical sign) (8,9).

Patients present with vulvar pain as major complaint. This pain is related to contact with the vestibular region of the vulva: during intercourse, prolonged sitting, bike riding, tight clothing, tampon insertion. Pain appears immediately or may be delayed and it resolves spontaneously or can persist. The patients will avoid situations which trigger the pain, limiting their sexual activity or other activities, with several psychological consequences (10).

Clinical diagnosis is based on several criteria: the pain has a vestibular localization (with or without clitoridean pain), is provoked by pressure-point testing, has no other established cause and lasts for more than three months. Vestibulodynia is more a diagnostic of exclusion and the most frequent entities to be excluded are genital infections and genitourinary syndrome of menopause. During history discussion, the clinician should ask about: gynecological history (infections, vaginosis, topical treatments, hormonal treatments, allergic reaction, skin disorders); sexual history (any symptoms of female sexual dysfunction, history of sexual abuse; gynecologic or obstetrical injuries or surgeries) (11).

The symptoms have to be carefully noted, because many women describe the pain as a burning sensation, while others feel sharp pain, or sensations like cutting, hot, razor-blade, knife-like or throbbing; some have a localized pain, other cannot define the location (the vestibulodynia is generalized or has another specific cause) (12).

Frequently associated described symptoms are introital dyspareunia, impossibility of tampon insertion, deep pelvic burning sensation or pelvic heaviness (possible related to myofascial pain syndrome). Menses is usually not related to vestibulodynia. Comorbidities, characterized by chronic pain may be encountered: irritable bowel syndrome, chronic bladder pain syndrome, fibromyalgia, orofacial pain, while some women report significant levels of psychologic distress (anxiety).

During inspection we may note that the vestibular region, between four and eight o'clock, is more reddish, but also may have an absolutely normal appearance. The main diagnostic element is the point-pressure test, respectively, we use a cotton-tipped swab, and by exerting pressure in a clock-wise manner, we note the localization and the degree of pain. Most women have allodynia (an exaggerated pain response even at gentle pressure). The next step is the digital examination of the vestibulum, vagina, pelvic floor muscles and urinary bladder, where we may find some trigger points for pain (12). A speculum examination is gently performed and specimens of vaginal fluid are collected. A bimanual exam is finally performed to exclude other genital pathologies, which may explain the pelvic pain.

Specific laboratory abnormalities are rarely identified in patients with vulvodynia, so imaging studies are not necessary.

Treatment consists in behavior changes (regarding hygienic measures) (13), stress reduction, good lubrication, pelvic floor physical therapy, cognitive-behavioral therapy and medication (topical lidocaine, topical hormone cream – estradiol 0.01% or estradiol 0.01% and testosterone 0.05% to 0.1%); antidepressants, neuropathic pain agents – gabapentin, pregabalin, carbamazepine; botulinum neurotoxin A; injectable steroids; complementary treatments; laser therapy and, the last therapeutic resource is represented by surgical treatment (14).

CONCLUSIONS

Although less frequent reported, bladder pain syndrome (or interstitial cystitis) and vulvodynia are entities that should be recognized by an experienced clinician. Realizing a complete history, performing a careful examination, and compassionate judgement may lead to a proper management and an improvement of the patient's quality of life.

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REFERENCES

1. Grundy L, Caldwell A, Brierley SM. Mechanisms Underlying Overactive Bladder and Interstitial Cystitis/Painful Bladder Syndrome. *Front Neurosci.* 2018 Dec 12;12:931.
2. Cepeda MS, Reps J, Sena AG, Ochs-Ross R. Risk Factors for Interstitial Cystitis in the General Population and in Individuals With Depression. *Int Neurourol J.* 2019 Mar;23(1):40-45.
3. Matthews CA, Deveshwar SP, Evans RJ, Badlani G, Walker SJ. Small fiber polyneuropathy as a potential therapeutic target in interstitial cystitis/bladder pain syndrome. *Int Urogynecol J.* 2019 Nov;30(11):1817-1820.
4. Skove SL, Howard LE, Senechal J, De Hoedt A, Bresee C, Cunningham TJ, Barbour KE, Kim J, Freedland SJ, Anger JT. The misdiagnosis of interstitial cystitis/bladder pain syndrome in a VA population. *Neurourol Urodyn.* 2019 Sep;38(7):1966-1972.
5. Tyagi P, Moon CH, Janicki J, Kaufman J, Chancellor M, Yoshimura N, Chermansky C. Recent advances in imaging and understanding interstitial cystitis. F1000Res. 2018 Nov 9;7:F1000 Faculty Rev-1771.
6. Rahnama'i MS, Javan A, Vyas N, Lovasz S, Singh N, Cervigni M, Pandey S, Wyndaele JJ, Taneja R. Bladder Pain Syndrome and Interstitial Cystitis

Beyond Horizon: Reports from the Global Interstitial Cystitis/Bladder Pain Society (GIBS) Meeting 2019 Mumbai - India. *Anesth Pain Med.* 2020 May 12;10(3):e101848.
7. Chen JL, Kuo HC. Clinical application of intravesical botulinum toxin type A for overactive bladder and interstitial cystitis. *Investig Clin Urol.* 2020 Feb;61(Suppl 1):S33-S42.
8. Vadala M, Testa C, Coda L, Angioletti S, Giuberti R, Laurino C, Palmieri B. Vulvovestibular Syndrome and Vaginal Microbiome: A Simple Evaluation. *J Clin Med Res.* 2018 Sep;10(9):688-692.
9. Torres-Cueco R, Nohales-Alfonso F. Vulvodynia-It Is Time to Accept a New Understanding from a Neurobiological Perspective. *Int J Environ Res Public Health.* 2021 Jun 21;18(12):6639.
10. Chisari C, Monajemi MB, Scott W, Moss-Morris R, McCracken LM. Psychosocial factors associated with pain and sexual function in women with Vulvodynia: A systematic review. *Eur J Pain.* 2021 Jan;25(1):39-50.
11. Paavonen J, Eschenbach DA. Localized Provoked Vulvodynia-An Ignored Vulvar Pain Syndrome. *Front Cell Infect Microbiol.* 2021 Jun 17;11:678961.
12. Klann AM, Rosenberg J, Wang T, Parker SE, Harlow BL. Exploring Hygienic Behaviors and Vulvodynia. *J Low Genit Tract Dis.* 2019 Jul;23(3):220-225.
13. Bachmann GA, Brown CS, Phillips NA, Rawlinson LA, Yu X, Wood R, Foster DC; Gabapentin Study Group. Effect of gabapentin on sexual function in vulvodynia: a randomized, placebo-controlled trial. *Am J Obstet Gynecol.* 2019 Jan;220(1):89.e1-89.e8.
14. Han E, Nguyen L, Sirls L, Peters K. Current best practice management of interstitial cystitis/bladder pain syndrome. *Ther Adv Urol.* 2018;10(7):197-211.