



Pelvic pain in patients with lower urinary tract symptoms: Challenges in diagnosis and treatment

W16, 29 August 2011 14:00 - 17:00

Start	End	Topic	Speakers
14:00	14:10	Introduction	• Bernhard Schuessler
14:10	14:15	Questions	All
14:15	14:25	Definitions	• Tilemachos Kavvadias
14:25	14:30	Questions	All
14:30	14:45	Diagnostics	• Kaven Baessler
14:45	14:50	Questions	All
14:50	15:20	Treatment	All
15:20	15:30	Questions	All
15:30	16:00	Break	None
16:00	16:40	Hands-on practice on pelvic models	All
16:40	17:00	Discussion	All

Aims of course/workshop

The aim of this Workshop is to make the audience familiar with the various clinical aspects of pelvic pain, specifically in the patient with lower urinary tract symptoms (LUTS). Current definitions and diagnostic tools along with pitfalls during the assessment of pelvic pain will be discussed. Furthermore, currently available treatment options will be presented together with an up to date review of the literature. Ultimate goal is to help physicians build a consistent concept in the assessment and treatment of pelvic pain in the patient with LUTS. In a hands-on session, vaginal and rectal palpation will be practiced using pelvic models to ensure understanding of the anatomy and function

Educational Objectives

The evaluation and treatment of pelvic pain in patients with lower urinary tract symptoms (LUTS) is often performed empirically and provisionally. Published studies have shown an inconsistency and lack of consensus in its evaluation patterns but also an effort to standardize and establish an internationally accepted terminology and treatment approach. This workshop will offer to the delegates:

1. An up-to-date literature review of the definitions and diagnostic procedures of pelvic pain,
2. An understanding of the clinical importance of its relation with LUTS,
3. An overview of the available treatment options and
4. A proposal for a consistent concept in the assessment and multimodal treatment of pelvic pain in the patient with LUTS
5. A hands-on session on pelvic models to demonstrate and practice vaginal and rectal palpation and trigger point assessment.

Since there has not been a similar Workshop in the last years, we believe that a thorough discussion of the above mentioned topics will be of great benefit for the delegates.

W16 Pelvic pain in patients with lower urinary tract symptoms: challenges in diagnosis and treatment'

INTRODUCTION

Approximately 39% of the female population reports always, often or sometimes having pelvic pain. 15-20% of women have experienced pelvic pain of longer than one year's duration and 61% of them report that the cause of their pain is unknown. In a large telephone survey of Mathias et al. (1996) 14.7% of 5263 women aged 18-50 reported having pelvic pain within the last 3 months. African American and women with age > 35 years were less likely whereas widowed, divorced or separated women were more likely to report chronic pelvic pain.

Pelvic pain is often associated with lower urinary tract symptoms (LUTS) or vice versa. The Standardisation Sub-committee of the International Continence Society (ICS) describes such situations as 'Genito-Urinary Pain Syndromes' and 'Symptom Syndromes Suggestive of Lower Urinary Tract Dysfunction', such as 'painful bladder syndrome (or interstitial cystitis)', 'vaginal pain syndrome', 'pelvic pain syndrome' and 'urgency'. The diagnosis is often vague, by exclusion and mainly symptom- driven.

Reported pain sites vary in publications in women with LUTS: bladder and bladder neck, vaginal, vulvar, urethral, suprapubic and perineal pain; low back pain, pain in the lower abdomen, muscle pain (levator ani, pubo- and iliococcygeus, piriformis, coccygeus and obturator internus); pain in the anterior thighs, buttocks and posterior thighs.

It has been estimated that up to 43% of women with voiding or storage bladder symptoms also have pain symptoms. But also, 63-93% of women with chronic pelvic pain report concomitant LUTS.

ASSESSMENT

Symptoms assessment with questionnaires

- Interstitial Cystitis Symptom Index (ICSI)
- Interstitial Cystitis Problem Index (ICPI)
 - o two 4-question indices for frequency/urgency, nocturia and pain, specified as 'burning, pain, discomfort or pressure in the bladder'
 - o to be used as a complementary tool and not for screening purposes.
 - o validation with IC/PBS patients
- Pelvic Pain and Urgency/Frequency (PUF) Symptom Scale
 - o 12-item index on urgency, frequency, sexual function and pain 'associated with the bladder or in the pelvis' (vagina, lower abdomen, urethra, perineum)
 - o validation using the intravesical potassium sensitivity test (PST).
- McGill Pain Questionnaire (MPQ)
 - o validated scale of rating pain for quantitative measurements of pain
 - o use of specific word-descriptors, such as 'pricking', 'pulling', 'sharp', 'dull', 'heavy', 'squeezing' and others
- Visual analogue scales

According to the terminology of ICS, pain of IC/PBS is isolated suprapubic pain, related to bladder filling; bladder pain is defined by ICS as felt suprapubically or retropubically, it usually increases with bladder filling and it may persist after voiding.

External examination

- Examination for vulvodynia (cotton swab)
- Scars, distorsion, infection/inflammation,
- Position of perineum in relation to ischial spines
- Perineal movement on contraction and Valsalva
- Sensitivity tests

Vaginal examination

- Urethra, bladder, (uterus)
- Levator ani muscle with all parts plus piriformis and obturator internus
- Anterior and posterior vaginal wall
- bladder neck
- Exam at rest, during pelvic floor contraction and Valsalva and/or coughing

Interstitial cystitis / painful bladder syndrome

NIDDK criteria for the diagnosis of IC/PBS: a) suprapubic, pelvic, urethral, vaginal or perineal pain on bladder filling relieved by emptying; b) glomerulations on endoscopy, c) decreased compliance on cystometrogram and/or d) Hunner's ulcers.

The definition of ICS includes: suprapubic pain related to bladder filling, accompanied by symptoms such as frequency, in the absence of other obvious pathology

Chronic pelvic pain - Pelvic pain syndrome

There is no generally accepted definition of chronic pelvic pain. Many accept a duration of 6 or more as the major criterion for chronic pelvic pain. The ICS describes the pelvic pain syndrome as the occurrence of persistent or recurrent episodic pelvic pain associated with symptoms suggestive of lower urinary tract, sexual, bowel or gynaecological dysfunction, with the absence of proven infection or obvious pathology.

Dyspareunia

Peters et al. (2008) reported that 77% of women with IC/PBS have deep dyspareunia

Urethral syndrome

Weiss (2001) mentioned the urethral syndrome as a cause of CPP in patients with urgency/frequency and pelvic pain trigger points. Parsons et al. (2001) found that patient with clinical urethral syndrome had a positive PST, but at a lower rate than patients with IC/PBS, implying a mutually existing dysfunction of the urothelium [68].

Urgency

According to the definitions of the ICS, urgency is the complaint of a sudden compelling desire to pass urine which is difficult to defer. According to Driscoll et al. (2001) 41% of patients with IC/PBS present with urgency, frequency or nocturia as first symptom before the diagnosis of IC/PBS is made. Van Os-Bossagh et al. found that 37% of CPP patients had serious urinary urgency, whereas in 18% urge was triggered or increased by lower abdominal pain and in 20% lower abdominal pain was triggered by urge.

Trigger points

- Are important in the evaluation of pelvic pain
- Tu et al.: women with CPP have levator ani and piriformis muscle trigger points and pain threshold in those sites is lower than in controls
- trigger points often coexist with generalized pelvic pain and irritative LUTS
- Empirical impression: there is an association between overactive bladder symptoms and pain in different sites of the pelvis without any obvious pathology

TREATMENT

The therapy of women with chronic pelvic floor pain aims to treat the underlying pathophysiology of pain or might be simply symptom-driven. Unfortunately, often there is only limited symptom relief.

Nerve Stimulation

Kessler et al. (2007) presented the results of a national registry in Switzerland reporting on 209 patients (181 females and 28 males) who received sacral nerve stimulation for refractory lower urinary tract dysfunction, eleven of whom were diagnosed with chronic pelvic pain syndrome. After a first follow up (median 7 days) and evaluation of the test phase, seven patients underwent permanent implantation. The authors report a decrease of the median pain score from 8 at baseline at the first follow up and 2 (IQR 1-4) at the last follow up (median 10 months, IQR 5-11), as well as a subjective symptom improvement of 100% and 65% respectively. Zabihi et al. report an improvement in the visual analogue pain score of up to 40%, in patients with chronic pelvic pain who were treated with bilateral S2-S4-sacral neuromodulation. Patients with interstitial cystitis also seem to benefit from sacral neuromodulation. Maher et al. report on 15 women with intractable interstitial cystitis who received percutaneous stimulation of the S3 sacral root. Mean bladder pain score decreased from 8.9 to 2.4, average voided volume increased significantly and quality of life variables improved at a follow up of 7 to 10 days after stimulation. Peters and Konstandt also showed that patients with interstitial cystitis reduced their narcotic requirements from 81.6mg/day to 52.0mg/day morphine dose equivalents, which corresponds to a decrease of 36% ($p=0.015$), after a sacral neuromodulation therapy of 15.4 (range 7.4-23.1) months.

Van Balken et al. presented the results of a prospective multicenter trial testing the percutaneous tibial nerve stimulation as a treatment of chronic pelvic pain. They included 11 women. After 12 weeks of treatment, 42 % of the patients were considered subjective responders. Of those, 43% reported a decrease of mean pain score of >50%. Patients with deep pain (perineal, perianal and vaginal) and shorter period of symptoms seemed to respond better to therapy than patients who report superficial pain (suprapubic, groin). Congregado et al. also report on a cohort of 51 females with lower urinary tract irritative symptoms who received tibial nerve stimulation, 21 of whom had hypogastric pain. At a mean follow up of 21 months, 7 patients (33%) reported still having hypogastric pain. In another report on tibial nerve stimulation of Vandoninck et al., responders with urge incontinence report higher scores in the pain domain of the SF-36 questionnaire, after a twelve week treatment.

Peters et al. in a prospective, single-blind, randomized, cross-over trial, compared the results of sacral versus pudendal nerve stimulation on thirty subjects with voiding dysfunction and reported that the pudendal method was superior to sacral for pelvic pain on a 7-point pain scale ($p=0.024$).

Local treatments

Local treatments include hydrodistension and intravesical injections and instillations. They are mainly used in patients with interstitial cystitis/painful bladder syndrome (IC/PBS). Riedl et al. presented a cohort of 126 females with IC/PBS, who were treated with a mean of 12.2 weekly intravesical instillations of 40mg hyaluronan (a derivative from hyaluronic acid). They reported a symptom improvement in 85% of the patients. The mean VAS pain score decreased from 8.5 ± 1.7 at baseline to 3.5 ± 2.7 ($p=0.0001$) after a mean follow up of 6.5 months (range 0-23). Cervigni et al. treated 23 IC/PBS female patients with a combination of hyaluronic acid 1.6% and chondroitin 2.0%, weekly for 20 weeks and then every 2 weeks for 3 months. They report a decrease of the mean VAS pain score from 5.65 (range 1-9) at baseline to 3.83 (range 0-9) at a mean follow up of 5 (range 3-8) months (27). Leppilahti et al. combined 4 weekly hyaluronic acid instillations with hydrodistension and reported a 75% decrease in pain among responders. Shao et al. showed that the combination of hydrodistension with hyaluronic acid instillations has a significant effect on pain score up to nine months after treatment.

Hydrodistention alone seems to only have a short term effect. Cole et al. reported subjective improvement at 1 and 6 months follow up in 61% and 0% respectively in group 1 and 54% and 7% respectively in group 2.

Aghamir et al. performed a 6-week treatment with weekly intravesical instillations with Bacillus Calmette-Guerin (BCG) and reported a decrease in VAS pain score from 4.2 ± 0.7 at baseline to 2.4 ± 0.7 at 24 months follow up, which corresponds to a 43.1% decrease of pain ($p=0.001$). Peters et al., also after a 6 week treatment with BCG in 12 females with IC/PBS, report a decrease of VAS pelvic pain score of up to 81% ($p=0.02$, mean pain score decreased from 4.3 ± 0.9 at baseline to 0.8 ± 0.3 at a 27 months follow up) (21).

One placebo controlled, double blind study, comparing intravesical alkalized lidocaine versus placebo in patients with IC/PBS found a decrease in pain score which was not significant, both in the lidocaine and in the control group, although overall bladder symptoms improved more patients of the lidocaine group (30% versus 9%, $p=0.012$).

Oral agents

Burkhard et. al treated 103 women with urgency/frequency and chronic urethra and/or pelvic pain with 100mg doxycycline twice daily for two weeks and 100mg once daily for another two weeks. After treatment 30% of the patients considered themselves cured and 41% reported subjective improvement.

Theocharides et al. report on the use of CystoProtek (a dietary supplement designed to improve glycosaminoglycans of the urothelium) in 227 women with IC/PBS. Treatment included four capsules / day (120mg glycosamine sulfate, 150mg chondroitin sulfate, 10mg

hyaluronate sodium, 150mg quercetin and 20mg rutin / capsule). Patients experienced a 48.8% reduction in the mean VAS pain score ($p=0.0001$) after 11.2 ± 8.7 months.

Pentosan polysulfate sodium (PPS) seems not to be an effective treatment in patient with IC/PBS. Davis et al. present the results of a randomized, double-blind clinical trial, which included 20 patients, who received 200mg PPS twice daily during 18 weeks and intravesical PPS twice a week for the first 6 weeks (treatment group), and 19 patients who received 200mg PPS twice daily during 18 weeks and intravesical placebo also twice a week for the first 6 weeks (placebo group). In both groups there were no significant changes in pain scores at 6-, 12- and 19-week follow up, although subjective improvement and Health Related Quality of Life scores were higher in the treatment group. Nickel et al., also in a randomized trial with 103 subjects receiving oral pentosan polysulfate sodium for interstitial cystitis, reported that patients could benefit from an early initiation of the treatment (within 6 months of establishing the diagnosis of IC/PBS).

In patients without IC/PBS but with vague, nonspecific urinary and pelvic or genital complaints, amitriptyline (25-100mg daily) could be therapeutically useful, as shown in a case series from Pranikoff and Constantino.

Lentz et al. presented a case series with 15 women with chronic, cyclic irritable bladder symptoms and pelvic pain who underwent diagnostic and / or therapeutic laparoscopy and cystoscopy with hydrodistention for the above mentioned symptoms. 67% of the patients had findings of both interstitial cystitis and endometriosis. Subjective improvement was reported in 8 out of 9 patients after a treatment with oral contraceptives and in 5 out of 6 in women who received leuprolide acetate.

Physical therapy

Oyama et al. present a manual therapeutic approach for females with interstitial cystitis and high-tone pelvic floor dysfunction. Twenty-one symptomatic women underwent transvaginal massage using the Thiele technique twice a week for 5 weeks. The authors report a decrease of pain score from a mean of 5.4 at baseline to 3.5 ($p=0.005$) at short-term follow up (2 weeks after treatment) and to 2.6 ($p=0.005$) at long-term follow (4.5 months after treatment). Improvement of pelvic floor tone was also statistically significant both at short and long-term follow up. Manual therapy of pelvic floor myofascial trigger points also seems to reduce pain of interstitial cystitis. Weiss reports a decrease of average 3.74 units on a zero to ten pain score scale after an eight to twelve week manual trigger point treatment with one to two visits/week.

According to two reports of Skilling and Petros, a combination of electrotherapy and pelvic floor exercises seems to have high subjective success rates (up to 76%) in patients with chronic pelvic pain, but also a high dropout rate (up to 47%).

Other treatment options

Gottsch et al. present data from a randomized, double-blind, placebo controlled trial, comparing botulinum toxin A and placebo (saline) periurethral injection for IC/PBS. Both cases and controls did not report any improvement after treatment.

Magnet stimulation therapy does not appear to be useful in non specific pelvic pain according to a report of Kirschner-Hermanns and Jakse.

Rofeim et al. reported on 24 patients with interstitial cystitis who were treated with YAG Laser under cystoscopic control to ablate the Hunner's ulcers of the bladder mucosa. The authors report a decrease in pain score from 9.1 preoperatively to 1.2 ($p=0.003$) 1 week after treatment.

One prospective randomized controlled study used guided imagery as treatment of interstitial cystitis. Cases (25-minute guided imagery twice daily for 8 weeks) showed significantly lower pain scores compared with controls (25-minute rest twice daily for 8 weeks).

CASE PRESENTATIONS

- Dyspareunia on penetration and overactive bladder
- Pelvic pain and pelvic organ prolapse
- Pelvic pain after implantation of non-absorbable vaginal mesh for pelvic organ prolapse
- Buttock pain and suprapubic cramps
- Dyspareunia and trigger points
- ...

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