Aims of course/workshop
1. To understand the definition, pathophysiology and clinical presentation of an overactive pelvic floor (OPF) and its relation to chronic pain conditions and psychosocial issues.
2. To carry out the evaluation of patients with OPF using a multidisciplinary approach and to become acquainted with common diagnostic techniques and tools.
3. To plan an individually tailored treatment strategy for patients suffering from OPF and OPF-related conditions.

Learning Objectives
After this workshop participants should be able to:
1. To understand the definition, pathophysiology and clinical presentation of an overactive pelvic floor (OPF) and its relation to chronic pain conditions and psychosocial issues.
2. To refine the ability to carry out the evaluation of patients with OPF using a multidisciplinary approach and to become acquainted with common diagnostic techniques and tools.
3. To plan an individually tailored treatment strategy for patients with OPF and OPF-related conditions.

Learning Outcomes
After this seminar, attendees will be able to identify OPF patients in the course of their clinical practice. Attendees will learn how to carry out basic screening for possible co-morbidities and psychosocial risk factors. The course will provide attendees with the tools needed to initiate workup and to plan treatment, including possible interdisciplinary referral. Each attendee will be able to establish a network of professionals in their geographic location, in order to address all aspects of OPF, though a coordinated team approach. After the course, attendees will be able to spread knowledge and increase awareness on OPF in their community of patients and colleagues. We hope the course will also stimulate attendees to initiate further research on OPF and OPF-related conditions.

Target Audience
Coloproctologists, continence nurses, gastroenterologists, gynecologists, midwives, physiotherapists, sexologists, sex therapists, urogynecologists, urologists

Advanced/Basic
Advanced

Conditions for learning
This is a seminar based on presentations delivered by the speakers. An interactive discussion will be taking place during the last 45 minutes, including a clinical case discussion. Time will be dedicated to Q&A at the end of each presentation.

Suggested Learning before workshop attendance

Suggested Reading
Marc Beer Gabel, MD

Definitions and pathophysiology of OPF

Pelvic Floor Overactivity (OPF) is a condition in which pelvic floor muscles do not relax, or may even contract when relaxation is functionally needed, like during micturition or defecation. In this chapter, we will overview pelvic floor anatomy and physiology. Pelvic floor muscles support the pelvic organs and are involved in continence, evacuation and sexual activity, constituting a complex functional entity. They affect pelvic organ function and interact with other core and hip muscles, affecting spinal stability, body posture and breathing. Pelvic floor muscles are connected to the fascia and activated by the somatic and autonomic nervous systems. As such, they are both under unconscious and voluntary control, which both determine pelvic floor tonus, which is enhanced in the case of OPF. Such tonus can be affected by abnormal body posture, emotions, memories and physical or psychological trauma.

At the neuromuscular junction, excessive release of acetylcholine, injury to the sarcoplasmic reticulum and ionic calcium release can causes contraction of the sarcomere, thus leading to hypertonicity.

Upon palpation, trigger points can be demonstrated as sensitive spots in skeletal muscles, associated with distinct nodules in taut bands of muscle fibers extending from a trigger point to the muscle attachments.

OPF interplays with various dysfunctions of the urological and colorectal system and may impair sexual function. Dysfunction may be associated with pain when there is persistent overactivity and the muscles shorten, influencing local circulation and causing ischemia.

Take home message: The pelvic floor is an integral functional unit including visceral and muscular elements, which interact both in the normal and dysfunctional state. Evaluation and treatment of pelvic floor dysfunction needs to address both elements in order to achieve efficacy.

Gastrointestinal Comorbidities: The Role of Pelvic Floor Overactivity on Defecation

The aim of this presentation is to acknowledge OPF as a cause of impaired defecation and chronic pelvic pain and to recognize its relation to psychosocial stresses. The use of diagnostic tools, such as anorectal manometry, ultrasound and defecography will be reviewed.

We will review the mechanism of normal defecation. Synchronization between the feeling the need to defecate, contraction of the hindgut and pelvic floor muscle relaxation is essential to allow rectal evacuation. When pelvic floor muscles become overactive, normal coordination between contraction and relaxation is disturbed, leading to bowel disorders. If this persists, muscles will shorten and become tense. A vicious cycle can involve contraction of abdominal muscles trying to overcome the non-relaxing contracted puborectalis during strain. Shortening of the muscle and impaired relaxation can cause pain or discomfort. Unfortunately, muscle overactivity can persist without the patient being aware of tense
muscles or abdominoperineal lack of coordination, so that defecation becomes obstructed and painful. We will discuss the place of anorectal manometry and Xray defecography as evaluation and patient education tools. We will overview the use of ultrasound defecography as a novel, non-ionizing office examination, which can serve as a first line evaluation tool. Finally, we will discuss treatment, with special emphasis to the use of physiotherapy and biofeedback. We will suggest medical treatment options for chronic myofascial pain.

Take home message: Bowel dysfunction is frequently encountered in OPF patients. Health providers treating OPF should be routinely screening patients for lower GI function and should be familiar with common diagnostic tools used for GI evaluation.

**Mauro Cervigni, MD**

**Bladder Pain Syndromes, Chronic Pelvic Pain, Voiding dysfunction and OPF.**

Overactive Pelvic Floor (OPF) is a clinical condition that affects a prominently female population, given the peculiarities of the female pelvic anatomy. There are many causes considered to be responsible for this particular clinical situation, among which Bladder Pain Syndrome (BPS) plays an important role. This condition is characterized by chronic inflammation of the bladder and is associated with Chronic Pelvic Pain (CPP). Diagnosis is typically established late in the course of disease, when the chronic neurogenic inflammatory state often affects adjacent pelvic organs and structures: uterus, vagina, rectum, gastrointestinal tract and pelvic floor muscles. BPS patients very frequently present spastic and hypertonic pelvic floor associated with pronounced tenderness upon palpation of specific trigger points. Isolated treatment of the latter, or selectively addressing muscle tone, mostly achieve a partial or minimal therapeutic response. Once the coexistence of BPS has been identified in a patient suffering from OPF, bladder inflammation and pain should be treated at once, while concurrently or subsequently addressing hypertonus of the pelvic floor. Once the painful and inflammatory component of the bladder is improved, partial or complete resolution of muscle hypertonicity occurs in 50-60% of cases. Therefore, it is mandatory for a specialist treating OPF patients to be able to detect the presence of BPS and either address its evaluation and treatment or refer the patient to specialized centers for an optimization of the clinical response resulting in improved patients quality of life.

Take home message: at the end of the presentation, participants will be able to recognize the possible coexistence of BPS in OPF patients, thus allowing comprehensive treatment or appropriate referral to specialized centers.

**Mélanie Morin, PT, Ph.D**

**Evaluating and understanding pelvic floor muscle overactivity - A physiotherapist’s perspective**

It has been recognized that pelvic floor muscle (PFM) overactivity plays a crucial role in several conditions such as bladder and bowel elimination disorders, genital/pelvic pain syndromes and sexual dysfunctions.

This presentation will review the muscle physiology associated with PFM tone. General muscle tone can be defined as the resistance provided by the muscle when pressure or a stretch is applied. General muscle tone in normally innervated skeletal muscles is composed of a passive and an active component (Simons, 2008). The passive component consists of the viscoelastic properties of the muscle tissue (Gajdosik 2001). The active component consists of physiological contracture (commonly defined as trigger point (TP)), electrogenic spasms (unintentional muscle contraction that can be brought to voluntary control), and normal electrogenic contraction (resting activity in normally relaxed muscle and myotatic reflex during stretching).

The presentation will also discuss the current assessment tools (palpation, ultrasound, manometry, electromyography (EMG) and dynamometry) and relate these tools to muscle physiology for evaluating muscle tone. Moreover, their psychometric properties (validity and reliability) and current recommendations will be presented.

The available evidence in women and men with conditions related to an overactive PFM will be discussed. So far, the literature suggests an elevated global PFM tone (measured by ultrasound, dynamometry and manometry), TPs (measured by palpation and palpometer), increased viscoelastic properties (dynamometer and EMG) and for some patients, elevated tone explained by electrogenic causes (evaluated by EMG). Empirical findings also indicate that the assessment of PFMs should not be limited to tone since the contractile properties (strength, speed of contraction, control and endurance) were also shown to be altered.

The evidence concerning the efficacy of PFM physiotherapy modalities will be presented. Physiotherapy intervention may include different modalities (education, manual therapy, biofeedback, electrical stimulation and dilator) which may target different components of PFM tone. For instance, biofeedback specifically addresses electrogenic spasms. The patients can thus learn how to properly relax their PFMs and gain control. In contrast, muscle stretching may address reduced flexibility associated with the viscoelastic properties of the tissue.

Take home message: A thorough understanding of PFM assessment tools in relation to muscle physiology is crucial to guide in the selection of treatment modalities and hence, potentiate efficacy.
Sexual dysfunction is possibly the most common presentation of an overactive pelvic floor, especially in female patients. This presentation will start with an overview of the role of pelvic floor muscles in normal female sexual function. The evidence on the effect of pelvic floor muscle training on sexual function in women with normal pelvic floor muscle tone will then be addressed.

We will review the classification, pathophysiology, clinical presentation and treatment of female genito-pelvic pain and penetration disorders, with special emphasis on the relation between sexual pain, sexual arousal and pelvic floor muscle tone. The role of the pelvic floor in male sexual function will be overviewed, in relation to chronic pelvic pain and chronic prostatitis. We will then discuss pelvic floor overactivity in relation to several sexual, emotional and relationship issues. Evidence regarding the response of pelvic floor muscles to stress will be reviewed. A special emphasis will be devoted to post traumatic stress disorder in sexual abuse survivors, as a cause for pelvic floor overactivity. Attachment styles and other behavioural issues and their relation the pelvic floor will also be mentioned.

In the section regarding treatment of overactive pelvic floor, this presentation will focus on psychological and medical therapy. We will suggest that health care providers adopt some cognitive therapy tools from interpersonal practice when treating patients with an overactive pelvic floor, given the significant role of psychosocial factors in causing and maintaining such conditions.

Medical and surgical treatment for genital pain disorders will be overviewed. We will suggest a treatment strategy based on selecting specific therapeutic tools according to the most probable etiology of the condition in each patient: hormonally mediated, neuroproliferative or mainly OPF-related.

Take home message: Pelvic floor overactivity, genito-pelvic pain disorders and psychosocial stresses are interrelated and mutually causative conditions, connected to each other through a vicious cycle.Acknowledging this fact is crucial both for health care providers and OPF patients in order to achieve treatment success.
ANATOMICAL CLASSIFICATION OF PELVIC PAIN SYNDROMES

**UROLOGICAL:**
- Painful bladder syndrome/Interstitial Cystitis
- Urethral pain syndrome
- Penile pain syndrome*
- Prostate pain syndrome
- Scrotal pain syndrome

**GYNAECOLOGICAL:** Endometriosis-associated pain syndrome
- Vaginal pain syndrome
- Vulvar pain syndrome

EAU guidelines 2007

**ANATOMICAL CLASSIFICATION OF PELVIC PAIN SYNDROMES II**

**ANORECTAL:**
- Proctalgia fugax
- Anorectal pain syndrome *
- Anismus

**NEUROLOGICAL:**
- Pudendal pain syndrome *

**MUSCULAR:**
- Perineal pain syndrome
- Pelvic floor muscle pain syndrome *

EAU guidelines 2007

**PAIN LOCALIZATION**

**In women**
- lower abdomen (80.4%)
- urethra (72.8%)
- lower back (65.7%)
- vaginal area (51.5%)

**In men**
- testicles (68%)
- penis (29%)
- anus / rectum (39%)

Simon LJ, 1997

It’s a visceral pain and as such it is difficult to interpret correctly.
Chronic burning pain, distributed in the perineum (ano-rectal and / urogenital); worse from sitting.
The Bladder Is the Source of CPP in Over 30% of Female Patients

Visceral Sources of Pelvic Pain

- Reproductive causes are the source of CPP in only 20% of patients

ESSIC Definition
Bladder Pain Syndrome

pain related to the urinary bladder, accompanied by at least one other urinary symptom such as day-time and night-time frequency, exclusion of confusable diseases as the cause of the symptoms and cystoscopy with hydrodistention and biopsy if indicated

Interstitial Cystitis/Bladder Pain Syndrome (IC/BPS)
is a gender disease!

Pathogenesis of BPS/IC

- Role glycosaminoglycans (GAG's)
- Mast cells (bladder mastocytosis)
- Neurogenic inflammation

Role of GAG Layer in IC: Defective Urothelial Barrier

GAG Dysfunction and Sensory Hyperstimulation

Pathogenesis of BPS/IC

- Role glycosaminoglycans (GAG's)
- Mast cells (bladder mastocytosis)
- Neurogenic inflammation

Role of GAG Layer in IC: Defective Urothelial Barrier

GAG Dysfunction and Sensory Hyperstimulation

Histamine Release

C Fibers

Substance P

Mast Cell

An = K̂
Mast Cells activation

- Mechanical trauma
- Neurogenic stimulus & neurotrophic changes
- Chemical & physical noxae
- Estrogens
- Hystamine
- Serotonin

Neurogenic Inflammation

- Antidromic firing
  - release of NGF and substance P
  - mast cells release histamine
  - altered membrane permeability

Interstitial Cystitis Pathogenesis: Integrated Pathophysiology

- Urothelial defect
- Mast cell activation
- C-fiber nerve upregulation
- Spinal cord and CNS “Wind-Up”
- Visceral hyperalgesia/allodynia
- Urinary
  - Gynecologic
  - Pelvic floor
  - Gastrointestinal

Pelvic Floor Spasm in IC/CPP

- Bladder inflammation
- Pelvic floor dysfunction

Pelvic Floor Dysfunction

- Non-neurogenic detrusor-sphincter dyssynergia
- Present in 70% of IC/BPS patients
- Probably the same or very similar to CP/CCPS Category IIIB

Pelvic Floor Dysfunction Symptoms

- Pelvic Pain
- Urinary urgency and frequency
- Pain with sexual intercourse or orgasm
- Variable urinary flow rate
- Constipation
- Lower back pain
PBS/IC Cystitis and Pelvic Floor Dysfunction

**IC/BPS**
- Urgency and frequency of urination
- Pelvic pain
- Dyspareunia common
- Symptoms often worsened by stress
- Nocturia common

**PFD**
- Urgency and frequency of urination
- Pelvic pain
- Dyspareunia common
- Symptoms often worsened by stress
- Nocturia uncommon
- Sensation of incomplete emptying
- Constipation
- Low back pain
- Straining with voiding

Viscero-Muscular Reflex

- Guarding is an example
- Pelvic floor hypertonus
  - Associated voiding dysfunction and incontinence
  - Myofascial pain/triggers
  - Dyspareunia
- New pain generator

Pelvic Floor Muscles

**Referred pain:**
- Perineum
- Urogenital structures (vagina/base of penis)
- Anus (Proctalgia fugax)
- Tailbone
- Hip
- Low back
- Thigh

Pelvic Pain

**Acute**
- Sign of tissue damage
- Conjunction response
- Autonomic reflex and signs
- Inflammation and infection

**Chronic**
- Usually dysfunction of neuronal circuits painkillers and no sign of organ pathology
- Cause of stress for the individual affected with physical and psycho-social
- Featuring answers psychological, emotional and behavioral differ from acute pain

Neuropathic pain

**IASP**
- Spontaneous pain independent of stimuli (symptoms described by the patient)
- Burning pain continuous intermittent pain a dense, throbbing, electric shock, crampy
- Pain caused by stimuli (product by physical examination)

LUT pain induced changes

Hyperalgesia

Allodynia
Genesis of chronic pain

The pivotal moment that marks the transition from acute pain to chronic pain is the development of mechanisms of peripheral sensitization and central sensitization.

**Central Mechanism: Wind-Up phenomenon**

When the fibers C are kept active by a stimulus sustained high frequency, the response of neurons broad-spectrum dynamic increases progressively to each stimulus.

PAIN CEREBRAL CONNECTIONS

**BRAIN GLOBAL ACTIVATION**

- Cortex: pain perception, memory and site
- Limbic system: emotional and psychoaffective aspects
- Hypothalamus: neurovisceral aspects

Assessment of Pelvic Floor

- Observation of vulva
- Width of introitus
- Palpation for tenderness
- Muscle tone
- Presence of trigger points
- Muscle strength
- Neuromuscular control

High Tone Pelvic Floor

Characteristics of High tone:
- Hypertonicity
- Decreased strength
- Decreased ability to relax post contraction
- Pain to palpation
- Trigger points
- Decreased motor control
Internal Assessment

Trigger Point:
A discrete, focal, hypersensitive spots located in a taut band of skeletal muscle. They produce pain locally and in a referred pattern and often accompany chronic musculoskeletal disorders.

Myofascial Trigger Points

Pelvic floor manual assessment: transvaginal or transrectal

Myofascial Trigger Points

Sensation of Incomplete voiding
Frequent Voids
Pelvic Pain
Valsalva with urination/defecation
Increased pelvic tone with sexual intercourse
Sensation of Incomplete voiding
Frequent Voids
Pelvic Pain
Start Narcotics
Anticholinergics
TCAs

Muscle Tone: hypertonic, spastic

UDM & IC/BPS INTERRUPTED UROFLOW
An undefined problem has an infinite number of solutions.

Robert A. Humphrey

Principles of BPS/IC Therapy

Oral Treatment - GoR

<table>
<thead>
<tr>
<th>Treatment</th>
<th>ICI</th>
<th>EAU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amitriptyline</td>
<td>B: 2</td>
<td>A: 1</td>
</tr>
<tr>
<td>Analgesics</td>
<td>C: 4</td>
<td>C: 2</td>
</tr>
<tr>
<td>Hydroxyzine</td>
<td>D: 1</td>
<td>A: 1</td>
</tr>
<tr>
<td>PPS</td>
<td>D: 1</td>
<td>A: 1</td>
</tr>
<tr>
<td>Cyclosporine</td>
<td>C: 3</td>
<td>A: 1</td>
</tr>
<tr>
<td>L-arginine</td>
<td>-A: 1</td>
<td></td>
</tr>
<tr>
<td>Antibiotics Regimens</td>
<td>D: 4</td>
<td></td>
</tr>
<tr>
<td>Azathioprine</td>
<td>D: 4</td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>ICI</td>
<td>EAU</td>
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<tr>
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</tr>
<tr>
<td>Lidocaine</td>
<td>C: 2</td>
<td></td>
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<tr>
<td>DMSO</td>
<td>B: 2</td>
<td>A: 1</td>
</tr>
<tr>
<td>Heparin</td>
<td>C: 3</td>
<td></td>
</tr>
<tr>
<td>Hyaluronic Acid</td>
<td>D: 1</td>
<td>B: 2</td>
</tr>
<tr>
<td>Chondroitin Sulfate</td>
<td>D: 4</td>
<td>B: 2</td>
</tr>
<tr>
<td>PPS</td>
<td>D: 4</td>
<td>A: 1</td>
</tr>
<tr>
<td>Capsaicin/RTX</td>
<td>-A: 1</td>
<td></td>
</tr>
<tr>
<td>BCG</td>
<td>-A: 1</td>
<td></td>
</tr>
<tr>
<td>Oxybutinin</td>
<td>D: 4</td>
<td></td>
</tr>
<tr>
<td>BTX –A</td>
<td>B: 3</td>
<td></td>
</tr>
</tbody>
</table>

Pain clinic's initial algorithm

- Gabapentin: 3x300mg
- Pregabalin: 2x75mg
- Morphine: 7.5mg, max. 6x/d
- Long acting Oxycodone: 30mg b.i.d.

Conservative Treatment - GoR

<table>
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<tr>
<th>Treatment</th>
<th>ICI</th>
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</thead>
<tbody>
<tr>
<td>Behavioral Modification</td>
<td>B: 2</td>
</tr>
<tr>
<td>Physical Therapy</td>
<td>A: 1</td>
</tr>
<tr>
<td>Stress Reduction</td>
<td>C: 4</td>
</tr>
<tr>
<td>Dietary Manipulation</td>
<td>B: 2</td>
</tr>
</tbody>
</table>

Manual Treatment

Internal Massage
- Myofascial Release Techniques:
- Direct pressure/compression
- Strumming
- Lateral stretching
- Contract-relax

Does internal massage work?

Weiss et al (2001)
- 42 pts with urgency-freq syndrome or IC
- 1-2 visits of PT, 8-12 wks
- 83% of urgency-freq patients/70% of IC pts had marked or mod improvement in symptoms

What does internal massage accomplish?
- Breaks pain-spasm-pain cycle
- Restores normal muscle tone
- Restores normal length tension relationship
- Increases blood flow
- Increase elasticity of tissue at vaginal opening
Does internal massage work?

Oyama et al. 2004

- Patients with IC and HTPF (n=21)
- Transvaginal massage 2x/wk x 5 wks
- Statistically significant improvement in:
  - Symptom and problem index (O’Leary Sant Questionnaire)
  - Pain and urgency VAS
  - Physical and mental component from Quality-of-Life Scale

Medical Adjuvant Treatment: HTPFD

Myorelaxant drugs (relax skeletal muscle/ inhibit spasm)
- mirtazapine/Skelaxin
- cyclobenzaprine/Flexeril
- tizanidine/Zanaflex

Medical Adjuvant Treatment: HTPFD

Anxiolytic + myorelaxant
(binds to benzodiazepine sites on GABA<sub>A</sub> receptor)
- diazepam / Valium 2mg QD-TID
- lorazepam / Ativan 1mg QD - PRN
- alprazolam / Xanax .25-50mg

Anticonvulsants:
- gabapentin/Neurontin
- pregabalin/ Lyrica
- SNRIs
- duloxetine HCL /Cymbalta
- mirtazapine / Savella

Diazepam Suppositories

- Rogalski et al 2010
- N=26
  - 100% HTPFD; 85% dyspareunia, 81% CPP, 61% IC
- Interventions: PT, TrP injx and 10 mg diazepam vaginal suppositories, inserted nightly for 30 days.
  - 25/26 = “improved sexual comfort”
  - Abstinence reversed in 6/7

Medical treatment:

- Carrico et al 2010
- Safety/efficacy of diazepam suppositories
  - 11 pts (IC-PFD) V5-10 supp. TID
- After 30d: 64% “moderate/marked improvement” and no s/e
- Serum levels WNL = mean 0.29
- Ref range (0.2-1.0 mcg/ml)
- 36% mild drowsiness; no respiratory suppression; no worsening of pain

HTPFD

Diazepam Suppositories

- Rogalski, M. Keilpp, Goed, S et al, 2010, Urology, 835-39

HTPFD

Medical treatment:

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HTPFD

Medical treatment:
**Triggerpoint needling**

- **TrP needling**: a method of directly inactivating TrP's—particularly those refractory to myotherapy.
- TrP is penetrated with fine needle, eliminating TrP as a painful focus.
- Needle inserted w/o medication (or lidocaine and antinflammatory medications can be added.)

---

**HTPFD Medical Treatment:**

**PFM TrP Injx**

- Kang et al. N=104 Levator spasm
  - Lidocaine .5cc/triamcinolone .5cc
  - Painfree 30.1%/moderate to mild relief 64.7%

- Langford et al. N=18 Levator spasm
  - Bupivicaine and lidocaine 5 ml/TrP
  - Painfree 33% / 39% >50% improvement in s/s

---

**Botox and High Tone Pelvic Floor Dysfunction**

- 12 women with CPP and HTPFD
- 40 U B/L PR, PC
- F/U at 2, 4, 8, 12 wks
- Dyspareunia VAS 80→28 (p=0.01)
- Dysmenorrhea VAS 67→28 (p=0.03)
- 25% ↓ manometry at 3 mo (p<0.0001)

  Jarvis et al. J. OB & GYN. 2004; 44: 46-50

---

**HTPFD Medical Treatment:**

**PFM TrP Injx**

- Doumouchtsis et al 2010
  - N=53 perineal pain/dyspareunia
  - 10ml bupivicaine/100mg hydrocortisone/1500 u hyaluronidase
  - 2 injections 1 month apart

  *27/53 painfree
  *16/53 mild pain but able to resume intercourse within 8 weeks

---

**Botox and High Tone Pelvic Floor Dysfunction**

- Double blinded RCT, 6mos.
- 60 women with CPP > 2y and PF spasm
- 30 received 80 U into PFM (BTX group), 30 Saline.
- BTX group: Dyspareunia VAS 66→12 (p<0.001),
  nonmenstrual pelvic pain VAS 51→22 (P=0.009)
- Placebo: only dyspareunia ↓ significantly (VAS 64 vs 27)
- Vag manometry ↓ significantly in both groups 49-32cm H20, 44-39cm H20
- **However no difference in pain scores between 2 groups**
  - Abbott et al. OB & Gynecol. 2006; 180: 915-923
Cross-over double blind controlled, with application of high-intensity rTMS to the motor cortex relative to the lower limbs in 25 diabetic patients suffering from chronic neuropathic pain resistant to medication.

- Outcomes: changes in perceived pain (subjective) and what measurable neurophysiological (objective) after 5 days of treatment compared to placebo.

- H-coil arrangement in order to stimulate the motor area relative to both lower extremities.

To evaluate the efficacy of TMS applied to the motor cortex M1 through H-coil as a treatment of neuropathic pain and urinary disorders resistant to drug therapy in patients with Bladder Pain Syndrome.

Eight women were enrolled (mean±SD: 55.5±10 years). The delay between the onset of symptoms and the inclusion in the study was 10±9.5 years. At the enrollment, the DN4 was 5.28±1.38 and the sensitization scale score was 66±9.20.

The bladder residue volume significantly reduced after the rTMS (p=0.02) and the OABq score reduced significantly after the rTMS (p=0.05).
RESULTS

The NPSI score reduced after the rTMS (p=0.05)

The changes in FPPS, MPQ, O'Leary Sant Questionnaire, and SF-36 were not statistical significant.
The VAS for pain and BDI reduced but not significantly.

DISCUSSION

The preliminary results of this pilot study show that the rTMS of the brain motor cortex related to the pelvic area changes both the subjective perception of the pain and the objective measurement of bladder voiding.

A placebo effect could be ruled out because a long latency between the treatment and the effects was demonstrated. Moreover, the depression did not improved before the changes in painful and urinary parameters, meaning that the change of psychic disease did not cause the clinical improvement reported.

DISCUSSION

Our results are consistent with the recent characterization of brain white matter micro structural abnormalities in women with BPS, suggesting a brain neuropathological contribution to chronic pelvic pain.

CONCLUSIONS

Deep H-coil rTMS applied to the motor cortex could be provide pain and urinary disturbances relief in patients with BPS.

The interpretation of this results is limited by the small sample size, and more data are certainly need to confirm this preliminary report and to better understand the mechanisms by which rTMS may modulate pain and urinary disturbances in BPS patients.

Take Home Message

"Let's not pretend that things will change if we keep doing the same things.....!"
Case presentation

ICS 2016

PATIENT
MR 32 ys.

From 2012
- Heaviness
- Pelvic pressure
- Increased daytime frequency (15 times a day)
- Nocturia (3 times a day)
- Urgency
- Dysuria
- Dyspareunia

Negative urine culture
Burning
Vulvodynia

CLINICAL EVALUATION

PHYSICAL EVALUATION
No Anatomical Defects
Allodynia Labia And Fourchette
Vulvar Q-tip-sensitivity Test ++

Multiple Trigger Points
(mainly on the right side of the body)

• Cervical Spine,
• Emidiaphragm,
• Piriform Muscle,
• Levator & Internal Obturator Muscles

SUGGESTED THERAPY

• Analgesics
• Myorelaxants
  • Physiotherapy / BFB
  
  Poor response

SUGGESTED THERAPY

Botox injection

• 50 IU into vestibulum
• 100 IU into Levator and internal obturator muscles

SUGGESTED THERAPY

Antibiotics
NSAID
Amytriptiline
Gabapentin
Bladder instillation with Cortisone

Poor answer
**CLINICAL EVALUATION**

**NEUROPHYSIOLOGIC EVALUATION OF PELVIC FLOOR**

Mild Pudendal Neuropathy  
(\textit{Right Side, Somatosensory Branch})

---

**SUGGESTED THERAPY**

- Physiotherapy Approach  
  \textit{Temporary improvement}
- Postural Approach  
  \textit{No effect}
- Psychoterapeutic Approach

---

**2012**

\textbf{Urodynamics}

- First desire: 40 ml
- Cystometric capacity: 170 ml
- No detrusor overactivity
- Hypocontractility

\textbf{Cystoscopy}

- Trigone with pink point haemorrhages
- Pale bladder mucosa

---

**December 2014**

\textbf{Bladder hydrodistension}

- Glomerulations++
- Bleeding++

\textbf{Bladder biopsy}

- erosions of the urothelium
- > 30 mast cells/mm² in the detrusor muscle

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**After hydrodistension**

- Palmitoiletanolamide (PEA) to reduce degranulation of mastcells

**IMPROVEMENT**

- Reduction in frequency to 8-10 times a day

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**After hydrodistension**

- bladder instillation with:  
  Hyaluronic ac and Chondroitine sulphate ,
  Once a week 6 mos
After hydrodistension

10 sessions of magnetotherapy
Perineal rehabilitation

RESULTS
VAS PAIN : 8, 5→ 4,1

OBSERVATIONS
1. Could a psychological evaluation be helpful in the management of this patient?

2. A patient with CPP and HYPFD: poor response with traditional RX, think a bladder as a possible source of problem

Take Home Message
Multimodal Treatment for HTPFD & BPS/IC
Multidisciplinary Team
The Overactive Pelvic Floor and Sexual Function
Anna Padoa, MD
Urogynecology and Pelvic Floor Service
Assaf Harofeh Medical Center

Disclosure

Topics

- Role of the pelvic floor in sexual function
- OPF and sexual dysfunction in women
- Female genito-pelvic pain/penetration disorder
- Emotional issues and pelvic floor overactivity

The Pelvic Floor and Female Sexual Function

- Kegel, 1948:
  - a technique for strengthening the striated pelvic floor musculature as a treatment for urinary stress incontinence. Several women reported enhanced erotic sensations in their genitals and a greater ability to experience orgasm.
  - Pubococcygeal muscle strength was found to be higher in orgasmic than anorgasmic women.

- Masters and Johnson, 1966: voluntary and involuntary pelvic floor contractions occur during sexual arousal in both genders.
  - Involuntary and rhythmic contractions of the pelvic floor muscles seen during orgasm, with 0.8-second intervals.
  - The intensity of the pelvic floor contractions during arousal and orgasm appeared to decrease with age.

- Bohlen and colleagues observed three different patterns of orgasmic contractions in eleven women aged 24-33.
  - First type: a small number of regular contractions subjectively indicated orgasm onset
  - Second type: twice as many regular contractions followed by additional irregular contractions.
  - Third type: a small number of women reported experiencing orgasm without any pelvic floor contractions.
Sherfey, 1974: venous congestion and stretching of the pelvic muscles stimulate muscle nerve endings such that they begin to contract. These muscular contractions, perceived as pleasurable, constitute the experience of orgasm.

Shafik, 2008: involuntary pelvic floor activity during stimulation of the clitoris, which he considered to be a clitoromotor reflex.

The levator ani is involved in vaginal elongation, uterine elevation and vaginal muscle contractions, possibly facilitating the male genital response, resulting from penile thrusting.


Messe and Geer, 1985: Vaginal contractions without additional sexual stimulation enhanced both genital and subjective sexual arousal relative to baseline. Possible mechanisms: increased stimulation of stretch and pressure receptors during intercourse may lead to enhanced arousal and orgasmic potential. Pubococcygeus exercises might focus a woman’s attention on her genitals; this shift in attention might result in an increased perception of pleasure.


Conclusion: Contrary to the promising findings of the early studies, women who do not have a low tone pelvic floor and who seek to enhance sexual arousal and orgasms, have not much to gain from pelvic floor muscle training. A relaxed pelvic floor and mindful attention to sexual stimuli and bodily sensations seems a more effective means of enhancing sexual arousal and orgasm.


Studies on pelvic floor dysfunction and sexual dysfunction: conflicting results. Limitation: no distinction between high-tone and low-tone pelvic floor dysfunction. A relaxed or low tone pelvic floor is associated with better sexual function. Sexual arousal and orgasmic pleasure are not enhanced by high tone of the voluntary striated muscles of the pelvic floor.


Sexual function in women with pelvic floor dysfunction.

Does pelvic floor muscle training enhance sexual arousal and orgasm? In women who were coitaly orgasmic in less than 30% of intercourse events, PFMT did increase pubococcygeus strength with no improvement on coital orgasmic frequency. 48 women with orgasm difficulties practicing PFMT over a 12-week period vs. relaxation vs. attention control group: no difference in orgasmic outcome. 32 sexually active postmenopausal women who all had the ability to contract their pelvic floor muscles: PFMT had no impact on sexual function.


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Female genital pain can result from various causes, including inflammation, dermatoses and infections. Up to 16% of the female population is diagnosed with vulvar pain syndromes, also known as vulvodynia, defined as genital pain in the absence of an identifiable cause.


Female genito-pelvic pain/penetration disorder.
Female Genital Pain and Penetration Disorders

- DD of vulvovaginal pain disorders, ISVVD – 2003

**Female genito-pelvic pain/penetration disorder**

- Provoked Vestibulodynia (PVD)

  **Symptoms**
  - History of introital dyspareunia
  - Sometimes partial or complete cessation of intercourse because it is too painful
  - Pain with tampon use, bicycle riding etc
  - Tenderness may be confined to the posterior or anterior vestibule
  - Can be primary or secondary

  **Examination**
  - Inspection
  - Q-tip examination
  - Pelvic floor muscle tone assessment

  **Possible Causes:**
  - Chronic inflammation: e.g., following repeated vulvovaginal infections
  - Neurogenic vulnerability: an initiating event or series of events may lead to chronic vulvar pain
  - Genetic variations: may predispose some patients to exaggerated inflammatory responses

- Vaginismus (DSMIV-TR)
  - Recurrent or persistent involuntary spasm of the musculature of the outer third of the vagina interfering with intercourse, characterized by high tone pelvic floor, chronically or in situations of attempted penetration (by any object)

- DSM-5: genito-pelvic pain/penetration disorder

**Provoked Vestibulodynia (PVD)**

- Goldstein’s classification of PVD:
  2. Hypertonic pelvic muscle dysfunction- other symptoms of hyperponticity, musculoskeletal disorders, anxiety. Posterior vestibule involved
  3. Neuroproliferative- increased number of nociceptors in the vestibular mucosa. Congenital or acquired, tenderness of the entire vestibule

OPF and sexual arousal in women with sexual pain disorders

- Apparently, genital response in women with dyspareunia is not impaired
- Genital response was found to be impaired, however, by fear of pain
- Brauer et al: diminished genital arousal in women with dyspareunia, but equally great in sexually functioning women, during erotic film viewing when the participant was under the threat of a painful stimulus at her ankle (= fear of pain)

Brauer M et al Arch Sex Behav 2006;35:191-200
OPF and sexual arousal in women with sexual pain disorders

- Fear of pain may result in increased pelvic floor activity, as part of a defensive reaction.
- The pelvic floor musculature, like other muscle groups, is indirectly innervated by the limbic system and therefore highly reactive to emotional stimuli and states.
- van der Velde et al. increased pelvic floor EMG in women with and without vaginismus in response to an anxiety provoking film.

Pelvic floor overactivity as an emotional response

- In cases of actual or imminent physical or mental pain the pelvic floor muscles will involuntarily and often unconsciously contract.
- Pelvic floor activity was found to be significantly enhanced during sexually threatening film excerpts, but also during anxiety evoking film clips without sexual content.
- In sexual abuse survivors, the pattern of pelvic floor activity was highest during the sexually threatening film clip and the film clip with consensual sexual content.

Pelvic floor overactivity as an emotional response - PTSD

- Yehuda, Lehrner and Rosenbaum, 2016: Sexual difficulties in individuals with PTSD:
  - Sexual pain and related complaints:
    - In women with PVD, the combination of increased PF muscle activity and lack of lubrication causes increased friction resulting in pain, tissue damage or irritation of the skin.
    - Patients with OPF often have other stress-related complaints: neck/shoulder area pain, tension and sexual arousal headaches

Pelvic floor overactivity and other sexual and emotional issues

- The Overactive Pelvic Floor
  - Patients with OPF often have
  - Painful orgasm related to involuntary classic pelvic floor contractions associated with orgasm, which become painful in women with a chronically overactive pelvic floor.
  - Behavioural issues: like a limited non-coital sexual repertoire, add to the likelihood of sexual arousal being insufficient for pain-free intercourse.
Main references

“The Overactive Pelvic Floor”. Padoa A, Rosenbaum T Editors.

- Ellen Laan, PhD, & Rik van Lunsen, MD, PhD: Overactive Pelvic Floor: Female Sexual Functioning
- Ahinoam Lev-Sagie, MD: Female Genital Pain and Penetration Disorders
Evaluating and understanding pelvic floor muscle overactivity
A physiotherapist perspective

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Melanie.m.morin@usherbrooke.ca

1. To present the current assessment tools for evaluating pelvic floor muscle (PFM) function and discuss these in light of muscle physiology
2. To discuss the implication of PFMs in the pathophysiological mechanisms of pain syndromes
3. To present the findings in the literature on the efficacy of physiotherapy.

PFM OVERACTIVITY
WHAT DOES IT MEAN?
Tone / tonicity / hyper and hypotonia / tensions / trigger points / spasm / cramp / relaxation difficulty / stiffness / contracture…

Mélanie Morin

Affiliations to disclose†:
No disclosure

* All financial ties (over the last year) that you may have with any business organization that may be involved with the subject matter during your presentation

Funding for speaker to attend:
× Institution (non-industry) funded

Context

PFM overactivity plays a crucial role in several conditions such as bladder and bowel elimination disorders, genital/pelvic pain syndromes and sexual dysfunctions

Muscle physiology

(Timmons, 1998)
Muscle physiology

- Normal resting activity
- Recorded by EMG
- Resting activity = controversies (Lakie, 1979; 1980)
- Myotatic reflex

Muscle physiology

- Normal resting activity
- Recorded by EMG
- Resting activity = controversies (Lakie, 1979; 1980)
- Myotatic reflex

Muscle physiology

- Not recorded by EMG
- Trigger point (TrP)

Muscle physiology

1. Actin and myosin (extensibility of bridges) (Campbell, 1998)
2. Cytoskeleton (titin and desmin)
3. Conjunctive tissues surrounding muscle fiber (endomysium), fascicle (perimysium), muscle (epimysium)

Muscle physiology

Palpation
Manometry
Dynamometry
Ultrasound

PFM MORPHOLOGICAL DEFICITS/DYSFUNCTIONS AND VULVODYNIA/CHRONIC PELVIC PAIN (CPP)
Palpation

Women with provoked vestibulodynia (PVD)/CPP vs asymptomatic controls:
- General muscle tone
  - Reissing’s scale (+3 to -3) (Reissing 2004; 2005; Gentilcore 2010)
  - Lamont’s scale (0 to 4, withdrawal behavior) (Reissing 2004)
  - Dietz’s scale (0 to 5, includes pain) (Loving, 2014)
- Relaxation capacity
  - 0 complete relaxation to 4 remains contracted (Gentilcore 2010)
  - Absent/complete/partial (Loving, 2014)
- Flexibility
  - 0 (less than one finger insertion) to 4 (two finger insertions with fingers abducted horizontally ≥2 cm) (Gentilcore, 2010)

Prevalence of TPs in the PFMs and surrounding muscles:
- 63% - 89% in women with CPP (including interstitial cystitis, PVD)
- 75-88% in men with chronic prostatitis/CPP

Clinical significance
- LA = Suprapubic region, urethra, bladder, perineum, penis, rectum
- Obturator internus = Anal, coccyx, vulvar, urethral, vaginal, or posterior thigh
- Piriformis = Sacroiliac region, buttock, hip
- Rectus abdominis = penis, perineum
- Ext oblique = suprapubic, testes

EMG

PFM resting activity

Significant difference
- White, 1997
- Frasson, 2009
- Loving, 2014
- CPP

Non-significant difference
- Reissing, 2004
- Engman, 2004
- Gentilcore, 2010
- Naess, 2015

Manometry

Naess 2015 in 35 PVD and 35 controls
- Women with PVD had significantly higher vaginal resting pressure
- Reduction in PFM resting pressure after a maximal contraction in women with PVD indicating that contracting the PFMs can be used as a muscle relaxation technique.

3D/4D Ultrasound

- In comparison to controls, women with PVD showed (Morin, 2014)
  - More acute ano-rectal angle
  - Larger levator plate angle
  - Smaller levator hiatal area
- Similar findings in men with CPP (Davis, 2011)

Dynamometer

- Dynamometric speculum (Morin, 2010)
  - Higher passive force at minimal aperture
  - Tolerated a lower maximal aperture
  - Dynamic stretches: elevated passives forces and stiffness
  - Same results when monitoring EMG to isolate passive contribution
- Myoton (Davidson 2014)
  - Increased stiffness
Summary of findings - PFM overactivity

The available evidence in women with vulvodynia/CPP:
- Elevated global PFM tone (measured by ultrasound, dynamometry and manometry)
- TPs (measured by palpation)
- Increased viscoelastic properties (dynamometer combined with EMG)
- Some patients, elevated tone explained by electrogenic causes (evaluated by EMG)

In men with chronic prostatitis/CPP:
- Elevated global PFM tone (measured by ultrasound)
- TPs (measured by palpation)

PFM function

Alterations of contractile properties in women with PVD/CPP:
- Strength
  - Palpation (Reissing 2004; 2005; Gentilcore-Saulnier 2010; Loving 2014)
  - EMG (Reissing 2004; Glazer 1998)
  - Ultrasound (Morin 2014)
  - Dynamometer (Morin 2010)
- Speed of contraction/coodination
  - Dynamometer (Morin 2010)
- Endurance
  - Dynamometer (Morin 2010)

Effects of physiotherapy

EMG biofeedback (Glazer,1995; McKay 2001; Bergeron 2001; Danielsson 2006)
- Address the electrogenic cause
  - Reduction in pain 34-66% of participants

General relaxation techniques (Hilton 2011)
- Stress management, relaxation breathing, relaxing time with a walk, hot bath, yoga, and meditation

Effects of physiotherapy

Manual therapy (Trigger point / Myofascial release)
- Sign. reduction in pain in patients with interstitial cystitis, and urological chronic pain and chronic prostatitis (Fitzgerald 2009; 2012; 2013; Anderson 2006)
- Reduction in resting EMG activity (Avra, 2001)
  - Supports the interrelation between contracture and electrogenic spasm

Effects of physiotherapy

Electrical stimulation (Murina 2008; Dionisi 2008)
- For reducing pain - TENS
- For reducing tension / improving muscle control
  - Reduction of pain (Nappi 2003; Morris 1987; Nappi 2003; Fitzwater 2003)
  - Improvement in strength and in relaxation (EMG) (Nappi 2003)

Effects of physiotherapy

Stretching/insertion (Idama 2000; Murina 2008)
- Sign. reduction of pain in women with dyspareunia
- Auto-insertion - an effective adjuvant to other therapies

Effects of physiotherapy

Proprioceptive neuromuscular facilitation (O’Sullivan 2000)
- Contract-relax to promote relaxation
- Efficacy not studied in PFM physiotherapy
Effects of physiotherapy on PFM function

**Multimodal physio**
(Goldfinger 2009; Gentilcore-Saulnier 2010; Bergeron 2012; Goldfinger 2016)

- Sign. reduction of pain in 51-77% of patients
- Improvement in sexual function
- Reduction in PFM tone (using the Reissing’s scale)
- Improvement in relaxation (0 fully able to return to their resting state to 4 remained fully contracted)
- Improvement in flexibility (transverse diameter 0 (less than one finger insertion) to 4 (two fingers abducted ≥2 cm))
- Increase in PFM strength (modified oxford)

**RANDOMIZED CONTROLLED TRIAL OF MULTIMODAL PHYSIOTHERAPY TREATMENT COMPARED TO OVERNIGHT TOPICAL LIDOCAINE IN WOMEN SUFFERING FROM PROVOKED VESTIBULODYNIA**

Principal Investigator: Mélanie Morin
Co-investigators: Chantale Dumoulin, Sophie Bergeron, Marie-Hélène Mayrand, Samir Khalilé, Guy Waddell, Marie-France Dubois, PVD Study Group*

Clinical trials.gov NCT01455350
Protocol published - Contemporary Clinical Trials, 2016, 46, 52-59

**Results - trial flow**

521 women interested in participating

Eligible and randomized (n=212)

Physiotherapy (n=105)  Lidocaine (n=107)

- 6 completed post-treatment
- Dropout/withdrawal
- Incomplete data
- Reasons for dropout
- Missing
- Lesions
- Event

Post-treatment

- 6 month follow-up

- 6 completed follow-up
- Dropout/withdrawal
- Incomplete data
- Reasons for dropout
- Missing
- Lesions
- Event

Results - Primary outcome

**Pain intensity (NRS)**

<table>
<thead>
<tr>
<th></th>
<th>Physiotherapy</th>
<th>Lidocaine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>31.8 (1.1)</td>
<td>32.4 (1.2)</td>
</tr>
<tr>
<td>Post-tx</td>
<td>21.8 (0.7)</td>
<td>26.8 (0.6)</td>
</tr>
<tr>
<td>6 month</td>
<td>30.5 (1.1)</td>
<td>25.5 (0.6)</td>
</tr>
</tbody>
</table>

Adjusted mean ± standard error. ***p<0.001

Minimal clinically important difference (MCID) - 1.5

**Results - Secondary outcomes**

**Satisfaction**

Patient’s global impression of change
- Women reported being very much or much improved:
  - 79% of women in the physiotherapy group compared to 40% in the lidocaine group (p<0.001)
Results - Secondary outcomes

<table>
<thead>
<tr>
<th></th>
<th>Physiotherapy</th>
<th>Lidocaine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Post-tx</td>
</tr>
<tr>
<td>Residual force (N)</td>
<td>1.1(0.1)</td>
<td>1.2(0.1)</td>
</tr>
<tr>
<td>Maximal aperture (mm)</td>
<td>22.0(0.8)</td>
<td>29.4(0.8)</td>
</tr>
<tr>
<td>Maximal strength (N)</td>
<td>5.0(0.2)</td>
<td>5.4(0.2)</td>
</tr>
<tr>
<td>Number of contractions</td>
<td>8.0(0.4)</td>
<td>10.7(0.4)</td>
</tr>
<tr>
<td>Slope of the ascending curve (N/s)</td>
<td>4.4(0.3)</td>
<td>6.1(0.4)</td>
</tr>
<tr>
<td>Slope of the descending curve (N/s)</td>
<td>5.2(0.5)</td>
<td>8.5(0.6)</td>
</tr>
</tbody>
</table>

Adjusted mean ± standard error. ***p<0.0001

Conclusion

- Multimodal physiotherapy is effective in reducing pain, sexual distress, fear of pain and catastrophizing as well as improving sexual function in women with PVD
- Physiotherapy significantly improved PFM function (strength, coordination/control, flexibility)
  Multimodal physiotherapy proved to be more effective than a frequently used first-line treatment - overnight lidocaine topical application
- Further studies needed to evaluate efficacy in other CPP.

THANK YOU!
Treatment of the Overactive Pelvic Floor

Anna Padoa, MD
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Disclosure

Treatment of OPF

A multidisciplinary approach must be adopted, including:
- Physiotherapy
- Psychosocial treatment
- Medical treatment

When approaching OPF patients, the combination of physical and psychosocial interventions is likely the most effective approach.
- Psychosocial education and interventions can be included in medical and physical therapy everyday practice and referral to a mental health care professional may be necessary in some cases.

Psychosocial Treatment of OPF

Psychosocial factors affect OPF:

1. Psychosocial factors can cause adverse physiological reactions in women with maladapting cognitions regarding vaginal penetration.
2. Psychosocial factors are involved in maintenance and exacerbation of pain (PVD <> OPF).
3. Psychosocial factors may impact adherence to physical therapy (avoid risk of failure while keeping hope).
4. Psychosocial factors may negatively impact post-treatment quality of life (medicalized sexuality, loss of erotic appeal).

The Fear-Avoidance Model of Pain

A way to conceptualize the interplay of physiological and psychological factors, adapted to OPF.
Psychosocial interventions for non-psychologists treating OPF

The “vicious cycle of pain”

- Ask the patient to personalize how the “links in the chain” in the vicious cycle apply to her specific situation.
- Explain that treatment can tackle any of the links of the chain.

Psychosocial Treatment of OPF

Pain signals travel up the spinal cord > processed by the brain as nociceptive > efferent fibers descend the spinal cord after thought and emotion processing > modulate signal processing in dorsal horn (augment/prevent)

Psychosocial Treatment of OPF

Address anxiety: The Rosenbaum mindfulness approach

Step 1: Lying on the table. The client is seated or lies on the table, fully draped, covered with a sheet. She is asked to note her level of anxiety from low to high (0-10) and then asked what she needs in order to reach the number 0. These needs may include lying on her side or a more supported posture; the practitioner moving away from the table, or, the client may need to get off the table and go back to sitting in the chair, where she was able to rate herself 0. After “zeroing anxiety” tools are introduced including deep breathing techniques. The exercise is repeated until she is able to sit on the table on her back with her knees flexed and together, and not lowered.

Step 2: Lying on the bed, fully draped (with pants) and covered with a sheet. The client is asked to bend her knees and separate the legs. She is reminded that if she feels anxious with her knees open, she may do what she needs to relieve her anxiety, which is likely to be a return to the position of knees bent and together. This exercise is repeated until she is able to take her anxiety level with her legs apart at 0.

Step 3: As in Step 2, but without the sheet. Covering herself again with the sheet is considered to be one of the remaining anxiety options available to the client, thus reducing anxiety.

Step 4: As in Step 2 but wearing shorts instead of long pants, first with and then without the sheet.

Step 5: As in Step 2 but with underwear only, with and without the sheet.

Rosenbaum T [Sex Marital Ther. 2011 Feb 28;37(2):89-93]

Psychosocial Treatment of OPF

Address anxiety: The Rosenbaum mindfulness approach

Mindfulness: Teach the patient how to attend the pain experience rather than avoid it and examine thoughts and feelings that accompany the pain.

Egalitarian work

- Goal: work to bring the less powerful patient to a greater level of parity (increase her knowledge and ability to act autonomously).
- “interactions” instead of “interventions”
- The survivor has power to influence the plan of care - both over the process and the content
- Distress seen not as a sign of psychopathology but as evidence of coping attempts.

Framing and Boundaries

Exploring Meaning

Egalitarian Work

Concepts from interpersonal practice:

1. Egalitarian Work
2. Exploring Meaning
3. Framing and Boundaries

Seng & Hassinger, J. of Nurse Midwifery, 1998
The clinical approach for safer CSAS care

Exploring meaning

- Understanding and explaining how the survivor's distress, her symptoms and her history fit together
- Survivors need to hear normalizing information from their health-care providers on what is happening to them emotionally
- Make the survivor feel that it is safe to bring abuse-related meanings into conversations on plans, conflicts and symptoms

Framing and Boundaries

- Framing: keep the elements of the “usual” frame in mind and consider if modifications would be useful
- Boundaries:
  - Discuss the survivor’s boundaries ahead (e.g., treatment by a male obstetrician, pelvic exam, how touch is perceived)
  - Provider’s boundaries: clinical issues of safety, limited ability of the doctor/nurse to cope professionally with post-traumatic reactions

Practical suggestions

1. History:
   - Always introduce yourself by name and status
   - Maintain eye contact
   - Include screening questions on sexual and physical abuse
   - Response to disclosure: calm, non-judgmental, empathetic.
   - Ask how the abuse is affecting her
   - Ask how she handles examinations, blood tests...

2. History:
   - Use her own vocabulary regarding the abuse
   - Document history of abuse only with the patient's permission
   - Avoid a tone of false intimacy
   - Avoid asking delicate questions while the patient is disrobing/ sitting on the examination chair

3. Physical exam
   - During physical and pelvic exams, the caregiver must keep clarity on the professional character of the interaction
   - Consider postponing difficult examinations to further meetings and build trust in the meantime
   - Suggest a female caregiver if that can help

4. Physical exam
   - Provide a private, well-lighted room. Knock before entering
   - Ask permission to proceed with examination, encourage the patient to ask to stop any time
   - Before the examination, explain why, how, where and for how long it is going to take place
   - Allow extra time for examinations
The clinical approach for safer CSAS care

Practical suggestions

Physical exam

- Allow her to prepare in advance and recover after the examination
- Avoidance of eye contact and focus on the genitals: ritual aimed at neutralizing sexual elements from the pelvic exam. In the case of survivors: may remind of trauma
- Let the survivor choose her position on the examination chair

WS # 2 – The Overactive Pelvic Floor – ICS, Tokyo 2016

Medical Treatment of OPF: PVD

Goldstein’s approach:

Neuroproliferative PVD:
- topical anaesthetics
- antidepressants, antiseizure drugs
- capsaicin cream
- vulvar vestibulectomy

Hormonally mediated PVD:
- stopping hormonal contraception
- topical estriol (with or without testosterone) to the vestibule

Hypertonic pelvic muscle dysfunction:
- Physical therapy
- cognitive behavioral therapy
- muscle relaxants (valium suppositories)
- Botulinum toxin injections


Surgical Treatment of PVD

Vulvar Vestibulectomy

Vestibule excision with vaginal advancement:
- A U-shaped area of the vestibule, inner labial fold, and lower portion of the hymenal ring is excised
- A piece of posterior vaginal wall is dissected from the underlying tissue to cover the excised area
- “modified vestibulectomy”: excision is limited to half-way up the vestibule


WS # 2 – The Overactive Pelvic Floor – ICS, Tokyo 2016

Efficacy of surgical therapy:
- Case series including 1138 patients reported an effect varying between 31% and 100%, for patients who reported at least some improvement.
- Twelve studies reported complete relief as an outcome and the median effect size was 67%.

Complications:
1. Bleeding, Hematoma
2. Infection
3. Complete or partial wound separation
4. Bartholin duct cyst formation
5. Anal sphincter weakness
6. Uneven healing requiring further surgery
7. Vaginismus
8. Vaginal stenosis

Main references

“The Overactive Pelvic Floor”. Padoa A, Rosenbaum T.

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- Elke D. Reissing, Ph.D., Heather VanZuylen, B.A.: Psychosocial Management