Genito-Pelvic Pain/Penetration disorder - Female Sexual Pain Disorder
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Female Pelvic Floor Muscles (PFM)
Superficial genital muscles
- Superficial transverse perineal
- Bulbocavernosus
- Ischiocavernosus
Perineal membrane
- Compressor urethrae
- Urethrovaginal muscle
Sphincter urethrae
Pelvic diaphragm
- Levator ani muscles
  - Pubococcygeus (pubovisceral)
  - Puborectalis
  - Iliococcygeus
  - Coccygeus (ischiococcygeus)

International Continence Society Definitions (ICS) (Rogers 2018)
- Obstructed intercourse: Vaginal intercourse that is difficult or not possible due to obstruction by genital prolapse or shortened vagina or pathological conditions such as lichen planus or lichen sclerosis
- Shortened vagina: perception of a short vagina expressed by the woman or her partner
- Tight vagina :
  - Introital narrowing: vagina entry is difficult or impossible (penis or sexual device)
  - Vaginal narrowing: decreased vaginal calibre.
- Scarred vagina: perception by the partner of a “stiff” vagina or a foreign body (stitches, mesh exposure, mesh shrinkage) in the vagina
- Dyspareunia: Complaint of persistent or recurrent pain or discomfort associated with attempted or complete vaginal penetration.
  - Superficial (Introital) dyspareunia: Complaint of pain or discomfort on vaginal entry or at the vaginal introitus.
  - Deep dyspareunia: complaint of pain or discomfort on deeper penetration (mid or upper vagina)
- Dyspareunia with penile vaginal movement: pain that is caused by and is dependent on penile movement.
- Non coital sexual pain: pain induced by non coital stimulation
- Post coital pain: pain after intercourse such as vaginal burning sensation or pelvic pain.
- Vaginismus: recurrent or persistent spasm of vaginal musculature that interferes with vaginal penetration
Genito-Pelvic Pain/Penetration disorder (ICS)
- Persistent or recurrent difficulties with 1 or more of the following:
  - Vaginal penetration during intercourse
  - Marked vulvovaginal or pelvic pain during intercourse or penetration attempts
  - Marked fear or anxiety about vulvovaginal or pelvic pain in anticipation of, during, or as a result of vaginal penetration
  - Marked tensing or tightening of the pelvic floor muscles (PFM) during attempted vaginal penetration.

Genito-pelvic pain / penetration disorder - with 5 dimensions (Binik 2010)
- Percentage of successful penetration
- Pain with vaginal penetration
- Fear of penetration or pain
- PFM dysfunction
- Medical co-morbidity

PFM dysfunction
- Overactive PFM – increased EMG at rest or during times when it should be relaxed
- PFM myalgia – pain on palpation of the PFM without increased muscle activation
- PFM tension myalgia – pain on palpation of the PFM with increased EMG activation
- PFM myofascial pain / trigger points (TrP) – hyperirritable nodule located within a taught band. (Spitznagle 2014)
  - Compression of the trigger point – significant local pain, jump sign best reliability
  - Local twitch response: rolling finger across muscle band = local contraction. Worse reliability for location of taught band and local twitch response
  - Referred pain, PFM = sacrum, OI = sacrum and posterior thigh
  - Overall identification of TrP is unreliable (Lucas 2009)

Etiology of Genito-pelvic pain / penetration disorder
Organic factors
- Increased PFM tone - increased tension in tissue (Haefner 2005, Reissing 2004)
  - Contractile - Overactive PFM
    - Elevated EMG resting tension - fear, pain, neurogenic
    - Excessive contraction before or on initiation of penetration
  - Non-contractile
    - Normal EMG
    - Contracture of connective tissue - radiation, surgical scaring, disease
- Skin
  - Increased sensitivity - local or global
  - Atrophy
- Painful organs
  - Pelvic organ prolapse
  - Adhesions - endometriosis, surgery
  - Painful bladder syndrome / Interstitial cystitis
- May have normal sexual desire (Lue 2004, Bason 2004)
Psychosocial factors (Simon 2018; Frederick 2016)

- Fatigue
- Stress
- Self-esteem
- Relationship issues
- Co morbidities and illness
- Religious, cultural and personal beliefs about sexuality
- Low libido.
- General stress response – PFM contracts in normal subjects in response to threatening situation (van der Velde 2001)

Occurrence
Gynecological cancer survivors - dyspareunia after surgery and or radiation (White 2006)

- 67% reported dyspareunia
- 55% reported superficial pain
- 40% reported deep pain
- 36% reported both superficial and deep

Prevalence in sexual dysfunction clinics

- 5-17% (Harish 2012)
- Reasons why patients asked for embryo transfers under sedation (Souza 2018 Rio)
  - Anxiety (27%)
  - Fear (27%)
  - Overreaction (23%)

PFM myofascial pain (Bassaly 2011)

- Demonstrated in 78.3% of IC patients with at least one myofascial trigger point
- 67.9% of patients had numerous areas of trigger points

Evaluation of Genito-Pelvic Pain/Penetration disorder

- Study investigates the dx of vaginismus by PT, MD, and psychologist (Reissing 2004)
  - Poor diagnostic agreement and not able to differentiate vaginismus from Provoked Vestibulodynia (PVD)
  - Women with vaginismus did have higher tone PFM and higher occurrence of defensive avoidance distress behaviors
- Predictive validity for vaginismus - Significant increased level of catastrophic pain thoughts and enhanced harm avoidance (Borg 2011)

Psychosocial / family / work

- Activity level and regular exercise
- Stable relationship with good communication
- Reaction to stress
Central sensitization
- Strongest predictor - disproportionate, non-mechanical pain, and unpredictable pattern of pain provocation
- Logistical regression - cluster of 3 symptoms and 1 sign predictive of CS (Smart 2012)
  - Disproportionate, non-mechanical pain, and unpredictable pattern of pain provocation
  - Pain disproportionate to type of injury or pathology - low pain tolerance
  - Strong association with maladaptive psychosocial factors (negative emotions, poor self efficacy, pain behaviors) - Pain responds to stress and anxiety
  - Defuse / non-anatomic areas of pain and tenderness on palpation, "spread" of pain
- Pain longer than 12 weeks
- Pain increased by small movement or no movement,
- Burning, shooting, crushing, allodynia or hyperalgesia
- Multiple systems involved – sleep, bladder, bowel, muscles, joints, immune system
- Depression, fear avoidance, catastrophization
- Previous treatment failure - treatment adherence for active treatments is low
- Central sensitization questionnaire (Mayer 2012)
  https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3248986/

Outcomes measures
- Vulvar questionnaire
- PISQ-IR (Constantine 2017)
- FSFI

Questions About Dyspareunia
Frequency of sexual interaction
- Varies widely among the general population
- There is no “normal” frequency of intercourse
- “Can you have intercourse whenever you like?”

Lack of desire and limited arousal
- Common problems with pelvic pain patients
- May require intervention from a sexual counselor
- During arousal, lubrication and engorgement of the vaginal tissues prepares the vagina for penetration

Do you have pain on initial penetration or with deep penetration?
- Entrance penetration pain is usually associated with
  - Adhered introital scars (episiotomy, vaginal surgery)
  - Dermatological lesions (lichen sclerosis, vaginismus)
  - Vulvodynia
- Deep pain can be related to
  - PFM spasm
  - Organ dysfunction, Abdominal adhesions

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How much pain do you have and how long does it last?

- Pain is usually rated on a visual analog or numeric scale
- Length of pain after intercourse can give some indication of the irritability of the tissues
- Pain that increased during intercourse may be related to rubbing or irritability
- Pain that gets better as intercourse proceeds may be tension

Complex scales can be used to determine sexual function

- 0 – no pain or limitation of intercourse
- 1 – some pain with intercourse but no limitation in frequency of sexual activity
- 2 – significant pain with intercourse and limitation in frequency of intercourse
  - Level 2 may be further clarified with percent of successful intercourse
- 3 – severe pain and inability to tolerate any penetration - # of months

Does intercourse position affect pain?

- What positions make it less painful?
- More painful?
- Many women find differences in pain with varying positions
- Discussion of sexual positions can be simple or very complex requiring referral to other professionals
- Some possible concerns with common positions include:
  - “man on top”: most pressure on the posterior structures of the vagina
  - “woman on top”: most deep penetrating; the women has more control over depth
  - “doggie style” (quadruped with rear entrance): least organ trauma/movement
  - “spoon” (side lying with the man behind): least penetrating

Can you achieve orgasm?

- Does it increase pain?
- Orgasm is a complex process and is seldom easily interpreted
- Orgasm is parasympathetic
- Pain with orgasm may indicate PFM spasm

Musculoskeletal assessment of trunk, pelvis, hips

- Hip range of motion for sexual positions - adductors, glutueals, piriformis
- Relaxation of abdominal wall
- Joint dysfunction

Patient education books
Carter M, Carter L. 10 steps to completely overcome vaginismus. 2004. Available at: help@vaginismus.com


References


Binik YM. The DSM diagnostic criteria for vaginismus. Arch Sex Behav 2010;39;278-291.


