Sexual Pain Disorders

Background

1. Definition
   - Sexual pain can be broadly divided into
     - Dyspareunia
     - Vaginismus
     - There may be some degree of overlap
   - Dyspareunia
     - Genital pain with attempted or complete vaginal entry
     - Greek meaning "Partners not fitting together"
   - Vaginismus
     - Involuntary spasm of the muscles surrounding the vagina, causing penetration to be painful or difficult
     - May be associated with prior unpleasant sexual or medical experiences
     - Anticipatory fear or anxiety often exacerbates symptoms
2. General info
   - Dyspareunia can be subdivided into:
     - Superficial & deep (depending on location of pain)
     - Primary
       - Patient has always experienced genital pain with sexual activity
     - Secondary
       - Patient has had pain free intercourse in the past
   - Superficial pain may be due to:
     - Vulvar vestibulitis syndrome (VVS)
       - Severe pain with vestibular touch or attempted vaginal entry
       - Tenderness to cotton swab pressure localized to vulvar vestibule
       - Physical findings of vestibular erythema
     - Vulvar dermatitis/infection
     - Vulvar atrophy
     - Vulvar dryness
     - Anatomic abnormalities
     - Urethral problems
     - Complex psychosocial issues may cause or aggravate the problem
   - Deep pain can be caused by:
     - Endometriosis
     - Adhesions (due to surgery, infections, radiation)
     - Chronic cervicitis/chronic PID
     - Leiomyomata
     - Adnexa, bowel, or bladder problems
     - Retroverted uterus
     - Complex psychosocial issues may cause or aggravate problem

Pathophysiology

1. Pathology of disease
   - Vulva and vestibule are innervated by
     - Pudendal nerve (motor and sensory)

        - Autonomic nerve fibers from the inferior hypogastric plexus and caudal sympathetic ganglia (genital sensation & pain)
    - Vestibule has an increased number of intraepithelial free nerve endings and neuropeptide
    - Minor tissue injury may act as a trigger
        - Sub-clinical vaginitis leads to production of local inflammatory mediators leading to peripheral sensitization
    - LH and HCG may aggravate pain perception
2. Prevalence
    - 21% among women 18-29 yrs of age
3. Risk factors
    - Pelvic inflammatory disease
    - Peri / post menopausal age
    - Anxiety
    - Depression
    - Hx of sexual assault
    - Female circumcision

Diagnostics

1. History
    - Pain
        - Location
        - Nature
        - Constant or intermittent
        - Acute or chronic
        - Any change noticed with change of position
        - Relation to menstrual cycle, season, stress (physical/mental)
    - Onset of symptoms
        - Recent
        - Present since first sexual experience
    - Gynecological problems
        - Abnormal vaginal discharge
        - Itching, burning, odor or bleeding
        - Hx of endometriosis, fibroids, infections, STDs or malignancy
        - Hx of gynecologic procedure, radiation or chemo
    - Medical problems
        - Autoimmune diseases
        - Skin disorders
        - Inflammatory bowel disease
    - Psychiatric problems
    - Smoking, alcohol or illicit drug use
    - Contraception
        - Especially local contraceptives (condoms, gels, diaphragm)
    - Drugs known to cause dyspareunia:
        - Low estrogen oral contraceptives
        - Depot medroxyprogesterone acetate
        - Spermicides
        - Douches

        - Antidepressants
        - Tamoxifen
        - Chemotherapeutic agents
        - Antibiotics
        - Antihypertensives
        - Anticholinergics
        - Antihistamines
    - Sexual history
        - Desire, arousal, orgasm
        - Sexual relationships, past and present
        - Hx of sexual abuse
    - Psychosexual history
        - Sexual orientation
        - Body image issues
        - Personal relationships
2. Physical exam
    - Complete physical exam
    - Gynecologic exam
    - Visual inspection
    - Anatomy: normal or abnormal
    - Skin color, texture, turgor, thickness
    - Muscle tone, vaginal depth, pubic hair, ulcers, abnormal discharge
    - Palpate Bartholin's glands, posterior fourchette and hymenal ring, rectovaginal surface, urethra
    - Cotton swab test
        - Gently touching the vestibule with a cotton swab will elicit moderate / severe pain in pts with vulvar vestibulitis
    - Assess for cervical motion tenderness
    - Bimanual exam assessing uterus and adnexa
3. Diagnostic testing
    - Lab tests should be guided by symptoms and findings on examination
    - Tests to consider:
        - Vaginal pH and wet mount
        - Cervical cultures
            - Gonorrhea, chlamydia, candida, trichomonas, HSV
        - Urine cultures
        - Colposcopy and biopsy
        - Pelvic ultrasound
        - Endocrine evaluation
            - TSH and prolactin
        - Some authorities suggest checking blood levels for estradiol, testosterone, FSH and LH

Differential Diagnosis

1. Vulva and vestibule
    - Dermatitis (eczema)
    - Dermatosis (lichen planus/sclerosis)
    - Ulcerative (HSV, chancroid, Crohn's, Behcet's)

- Labial hypertrophy
- Female circumcision
- Radiation

2. Urethra and bladder
   - UTI
   - Urethral diverticulum
   - Interstitial cystitis
3. Vagina and vestibule
   - Atrophy (low or absent estrogen)
   - Vulvovaginitis
   - Bartholin cyst
   - Seminal plasma allergy
   - Inadequate lubrication/dryness
   - Congenital anomaly (agenesis, imperforate hymen)
4. Vestibule only
   - Vestibulodynia
5. Perineum and anus
   - Episiotomy
   - Dermatitis
   - Inflammatory bowel (Crohn's dz)
6. Pelvis:
   - Pelvic floor hypertonus
   - Retroverted or prolapsed uterus
   - Leiomyomata
   - Endometriosis
   - Adenomyosis
   - Adnexal pathology
   - Pelvic inflammatory disease
   - Irritable bowel syndrome

Treatment

1. Vulvar vestibulodynia or vulvodynia
   - Xylocaine (5% in neutral base)
     - Applied to vestibule 10 min before intercourse
   - EMLA (lidocaine and prilocaine)
   - Gentle vulvar hygiene, use of cotton underwear, sanitary pads or tampons, avoidance of fragrances may be helpful
   - Pelvic physical therapy, often involving surface electromyography, can reduce pain by 40-60%
2. Vaginismus
   - Progressive muscle relaxation
     - Can be taught during an instructional examination by having the patient alternate contracting and relaxing pelvic muscles around examiners finger
   - Vaginal dilatation
     - Patients can achieve vaginal dilatation using commercial dilators or tampons of increasing diameter placed in vagina 15 min twice daily

- Kegel exercises, pelvic physical therapy including biofeedback, seem to be effective also

3. Vulvovaginal atrophy
    - Local estrogen cream 0.3 mg applied BID for 4 weeks, can then be decreased to 1-2 times per week
    - Non-hormonal treatments include moisturizers and lubricants (e.g. Replens, KY jelly, Astroglide)
4. Inadequate lubrication
    - Management of underlying cause (physical or psychiatric)
    - Avoid causative medications
    - Add topical lubricants and local estrogen therapy
    - Increase amount of foreplay
    - Delay penetration
5. Psychogenic dyspareunia
    - Psychotherapy, sexual therapy, couple education about sexuality and communication
    - Vaginal exercises and vaginal self dilatation can be advised

Follow Up

1. Varies
    - 2 weeks to 3 months or longer depending on patient
2. If serious organic pathology is suspected refer to specialist urgently

Clinical Complications

1. Stress and depression
2. Distress
3. Relationship breakdown

Prevention

1. Healthy relationships and good communication between partners tend to minimize sexual problems
2. Good sexual health and hygiene that prevents acquisition of sexually transmitted dz is also beneficial
3. Smoking cessation
    - Smoking is associated with sexual dysfunction possibly through vascular mechanisms
4. Avoid alcohol and illicit drug use
5. Avoid high risk sexual behavior
6. Emphasize foreplay and lubrication

Screening

1. Routine screening questions should be asked in all consultations that may impinge on sexual or general health

References

1. American College of Obstetricians and Gynecologists. Sexual dysfunction. Technical bulletin no. 211. Washington, D.C.:ACOG, 1995.

2. Meana, M, Binik, YM. Painful coitus: a review of female dyspareunia. J Nerv Ment Dis 1994; 182:264.
3. Heim, LJ. Evaluation and differential diagnosis of dyspareunia. Am Fam Physician 2001; 63:1535.
4. Steege, JF, Ling, FW. Dyspareunia. A special type of chronic pelvic pain. Obstet Gynecol Clin North Am 1993; 20:779.
5. Philips NA. Female sexual dysfunction: evaluation and treatment. Am Fam Physician 2000;62:127-36,141-2.
6. Baggish, MS, Miklos, JR. Vulvar pain syndrome: a review. Obstet Gynecol Surv 1995; 50: 618.
7. UpToDate, Elizabeth Gunther Stewart, M.D.

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