Dyspareunia is pain during or after sexual intercourse. It can affect men but is more common in women. Women with dyspareunia may have pain in the vagina, clitoris or labia. There are numerous causes of dyspareunia - many of which are easily treatable.

Epidemiology

It is difficult to estimate the incidence of dyspareunia accurately, as the majority of cases are unreported. In a Scandinavian questionnaire-based study in 2003, out of 3,017 women aged 20-60 attending a cervical screening programme, 9.3% reported prolonged dyspareunia: 13% of women aged 20-29 years and 6.5% of women aged 50-60 years.\(^1\)

A similar population-based study, of 200 Brazilian-born women, aged 40-65 years, with eleven years or more of formal education, found a prevalence of dyspareunia of 39.5%.\(^2\) In this study co-existent nervousness and depression increased the likelihood of dyspareunia and both frequent sexual intercourse and having had more than two pregnancies were protective against it (although clearly one could argue about cause and effect).

Risk factors

It occurs most frequently in:

- Those who are sexually inexperienced (particularly if their partners are also inexperienced).
- Those who are peri- or post-menopausal.\(^3\)

Hysterectomy might be expected to increase the risk but the opposite is observed.\(^4\)

Presentation

Symptoms

Ask if it is superficial dyspareunia on penetration (felt at the introitus) or deep dyspareunia that is felt with penile thrusting, usually felt more deeply within the pelvis). Both may be present.

Tightening of the vaginal muscles on penetration is a symptom of vaginismus. This is often extremely painful and may make penetration physically impossible.

Take a full history, including a sexual history:

- Is it recent or has there always been dyspareunia?
- Has the dyspareunia followed childbirth? If so, is there a history of episiotomy or of traumatic birth?
- Where is the pain felt (superficial, deep or both)?
- When is the pain felt (before, during or after intercourse or a combination of these)?
- If pain continues after intercourse, how long does it last?
- Does anything else produce the same pain? (For example, pain from irritable bowel syndrome (IBS) may be experienced during periods of bowel activity.)
- Has successful intercourse taken place in the past?
- Is intercourse possible at present?
- If not, does the patient wish to be sexually active?
- Have artificial lubricants been tried?
Is there anything to suggest there has been sexual abuse, rape or trauma to the genitals? (Note that almost half of women who have experienced intimate partner violence have also had forced sexual activity.)

- Is she having sex when she would prefer not to?
  - "Have you ever had sex when you couldn't have said no?"

- Is there ever any threatened or actual violence associated with intercourse?
- Has there been female genital mutilation?

Ask about symptoms suggestive of the menopause.

- Is she still having periods?
- Is the patient experiencing vaginal dryness, hot flushes or menstrual disturbance?

Establish the following:

- Is there an increased risk of a sexually transmitted infection (STI)? Has there been a change in partner in the preceding six months or or have there been two or more partners in the preceding year?
  - "When did you last have sex?"
  - "When did you last have sex with someone different?"

- Are there any symptoms of a pelvic prolapse?
- Are there symptoms of urinary tract infection (UTI)?
- Is she breast-feeding? This can lead to vaginal dryness and dyspareunia.
- Note comorbid medical history, particularly of bowel or bladder disease, of abdominal surgery (which may lead to adhesions), prolapse surgery (leading to vaginal scarring) and of psychiatric conditions which may increase anxiety or somatisation. Medical conditions which can affect vaginal sensation include Sjögren's syndrome (which may cause vaginal dryness) and diabetes (which increases the tendency to thrush but which can also be associated with reduced vaginal lubrication).

**Signs**

- Perform an abdominal examination to detect any masses or suprapubic tenderness.
- Proceed to external genital examination. This may include sensitivity testing with a cotton-topped bud to detect provoked vulvodynia (previously called vulvar vestibulitis).
- Look for:
  - Skin disease, such as psoriasis or lichen sclerosus.
  - Whether vaginal secretions seem normal or sparse.
  - Inflammation.
  - Infection like candida, herpes simplex or genital warts.
  - Scarring (surgical or due to childbirth):
    - In particular, posterior skin bridge where there is a history of superficial dyspareunia following childbirth.

**Examination**

- A woman may need to have had several consultations before she is ready to be examined; she should always be reassured that she is in control and that you will stop immediately if she asks you to.
- Patients with vaginismus may be extremely worried at the prospect of vaginal examination; gentle digital examination should be attempted before speculum examination. The latter may need to be done using a virginal speculum.
- Careful vaginal examination may allow direct observation of vaginismus. The latter may produce an obvious reflex tightening, which may be a natural protective reflex to pain.
- Initial examination should be with a single, gloved finger and the patient may be asked to contract and relax her 'vaginal' muscles to allow assessment of her control of these muscles. Advancing the finger allows palpation of the pelvic floor muscles at the 4-5 o'clock and 7-8 o'clock positions and may give a clue that muscular contraction of the levator muscles (often associated with vaginismus) is contributing to coital pain.
Bimanual examination of the pelvis is then indicated:

- Palpation of the bladder base bimanually usually produces mild urgency; however, in women with chronic interstitial cystitis, pain may then be reproduced.
- Cervical sensitivity may be elicited with the finger or with a cotton bud on speculum examination. Cervical excitation pain suggests pelvic inflammatory disease (PID). This may be an appropriate time to take swabs looking for an STI.
- Assessment of the size, shape, position and mobility of the uterus and adnexae may reveal tenderness, bulkiness or the pelvic scarring associated with endometriosis or adhesions. Gently feel for abnormal pelvic masses, tenderness or lack of mobility of the pelvic organs, which may suggest endometriosis.
- Tenderness on posterior palpation of the rectum is common with IBS. Tender bowel loops may also be felt in this condition, particularly in the right iliac fossa and the ileo-caecal junction.

Rectovaginal examination is rarely necessary, has poor sensitivity and is unlikely to alter management.[8]

Differential diagnosis

Symptoms can give a good indication of cause:

Psychological dyspareunia, including that associated with lack of desire, or that associated with prior or ongoing sexual or domestic violence may cause any one or combination of these.

- Pain with arousal:
  - Hymenal ring bands cause pain during arousal.
  - Swelling of a Bartholin's gland cyst during intercourse.
  - Bromocriptine may cause painful clitoral tumescence.

- Sensitive external genitalia:
  - Vulvodynia, which includes clitoral irritation and hypersensitivity.
  - Chronic vulvitis from infection, chemical irritation or allergy, including candida, herpes simplex, trichomonas, gardnerella.
  - Skin disorders, including lichen planus and lichen sclerosus.

- Pain at introitus with entry of penis:
  - Painful episiotomy scar or posterior skin bridge.
  - Surgery and radiotherapy for malignant disease.
  - Rigidity of the hymenal ring.
  - Inadequate lubrication, including psychological problems like:
    - Past or present abuse.[5]
    - Anxiety and depression.

- Atrophic vaginitis (genitourinary syndrome of menopause).
- Problems of arousal (including insufficient foreplay, and medication).
- Congenital abnormality of the vagina.
- Vaginitis (from infection, chemical irritation or allergy, including from spermicides).
- Vaginismus.

- Mid-vaginal pain:
  - Congenitally shortened vagina.
  - Acute or chronic cystitis, or interstitial cystitis.[9]
  - Urethritis.

- Pain with orgasm:
  - Uterine contractions.
• Pain with deep penetration:
  - PID.
  - Vaginitis.
  - Cervicitis.
  - Malposition of an intrauterine contraceptive device (IUCD) or intrauterine system (IUS) - sitting in the cervical canal.
  - Endometriosis/adenomyosis.
  - Enlarged uterus from myoma.
  - Fixed retroverted uterus.
  - Scarring from surgery for genitourinary prolapse.\[^{10}\]
  - Inadequate sexual arousal (as with pain at the introitus).
  - IBS.
  - Inflammatory bowel disease (IBD) or chronic constipation.
  - Pelvic mass.
  - Interstitial cystitis.
  - Retroverted uterus with prolapsed ovaries (into the pouch of Douglas).

• Pain after intercourse:
  - Vaginismus.
  - Vaginitis.
  - Cervicitis.
  - IUCD or IUS sitting in the cervical canal.
  - Endometriosis/adenomyosis.
  - IBS.
  - IBD.
  - Retroverted uterus with prolapsed ovaries (into the pouch of Douglas).

Diagnosis

In the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), vaginismus, dyspareunia and provoked vulvodynia are classified together under the broader term of genito-pelvic pain/penetration disorder (GPPD).\[^{11}\] GPPD is defined as:

- Persistent or recurrent difficulties in vaginal penetration during intercourse; or
- Marked vulvovaginal or pelvic pain during intercourse or penetration attempts; or
- Marked fear of or anxiety about vulvovaginal or pelvic pain in anticipation of or during or as a result of penetration; or
- Marked tensing or tightening of the pelvic floor muscles during attempted penetration.

Investigations

- Appropriate swabs and transport media are required for gonorrhoea, chlamydia and other STIs.
- Dipstick urine and/or send a midstream specimen of urine to check for UTI.
- Investigation of the gastrointestinal or urinary tract will be based on history and examination.
- Laparoscopy may be useful if endometriosis or adhesions are suspected as the source of pain.

Management

As with erectile dysfunction, where appropriate, the problem should be approached by the couple rather than just the individual.

General measures

- Treatment should be directed at the underlying cause, where appropriate.
- Research in this field is often of poor quality but it appears that psychological treatments are as effective as medical treatments, independent of the cause of the pain.\[^{11}\]
- A multidisciplinary approach, which includes psychosexual medicine, physiotherapy, clinical psychology and pain management teams, may be required.
Modification of sexual technique and altering position may help to reduce pain with intercourse. Increasing the amount of foreplay and delaying penetration until maximal arousal will increase vaginal lubrication and decrease pain with insertion.

Women may be concerned that their vagina is too small to allow entry of a penis. In response to sexual arousal, the vagina increases in length by about 35-40% and expands in width at the upper end by about 6 cm. The vagina can be tight enough to hold a pencil or wide enough to accommodate a baby's head.

Pharmacological

- Vaginal infection may need treatment.
- Hormonal manipulation may benefit endometriosis.
- Local injections of corticosteroids, local anaesthetic and hyaluronidase have been well tolerated with significant improvements in pain scores and sexual function for chronic localised pain following childbirth or vaginal surgery.
- Vaginal oestrogens are a safe and effective treatment for genitourinary syndrome of menopause. Ospemifene, a vaginal selective oestrogen receptor modulator (SERM), is effective in the treatment of menopausal vulvovaginal atrophy and is an alternative for women who cannot use vaginal oestrogen therapy.
- Sildenafil may be helpful for some women with arousal problems.

Surgical

- Surgery is required for pelvic masses and sometimes to remove chronically infected tubes or to clear endometriosis or adhesions.
- Fenton's operation (to enlarge a tight introitus) may help.
- Removal of sensitive scar tissue bridge can be highly effective when there is pain following episiotomy.
- Ventrosuspension to 'correct' a retroverted uterus in an anteverted position is occasionally proposed but it is not known if it is effective as there are no randomised controlled trials of this procedure.

Complications

Many women do not consult a doctor. The sex life of the couple suffers, as does their relationship.

Prognosis

The doctor must take a positive and sympathetic approach to get the best results, as there is often a combination of physical and psychological problems. Immense care when carrying out an internal examination is essential.

The causes and complications of the condition take time and confidence to overcome.

- In the Scandinavian study mentioned earlier, of the women who had ever had prolonged and severe dyspareunia, only 28% had consulted a doctor for their symptoms.
- 20% recovered after treatment.
- 31% recovered spontaneously.

Further reading & references


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