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Evaluation Of Chronic Pelvic Pain In Women

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Abstract

Chronic pelvic pain (CPP) in women is one of the most common problems

encountered by health care provider. It is the single most common indication for referral to

gynecology clinics accounting for 20% of all outpatient appointments in secondary care. Thorough history taking and physical examination followed by specific diagnostic test are important to find out the cause of chronic pelvic pain. development of chronic pain is often multifactorial . CPP is a diagnostic and management challenge to the patient and clinician. Women with chronic pelvic pain will require detailed gynecologic, urologic, gastroenterologist, and psychological assessment. Appropriate evaluations can lead to optimal treatment and decrease the rate of inappropriate interventions. CPP cannot be always cured. Thus reassurance and psychosocial support play important role in the management of CPP

Introduction

Chronic pelvic pain (CPP) in women is one of the most common problems encountered by health care provider. In a study estimated prevalence of CPP is 38/1000 in women aged between 15-73 years: a ratio comparable to asthma (37/1000) and chronic back pain (41/1000) (1). It is the single most common indication for referral to gynecology clinics accounting for 20% of all outpatient appointments in secondary care. It is the indication for an estimated 15-40% of laparoscopies and 12 % of hysterectomies (2). The true incidence and prevalence, as well as the socioeconomic impact, of the problem are unknown. The most commonly used definition of CPP is recurrent or constant pain in the lower abdominal region that has lasted for at least 6 months (3). Pelvic pain related to pregnancy, malignancy, pain during menstruation (dysmenorrhea) or during sexual intercourse (dyspareunia) are usually excluded from the definition (4). The lack of consistent definition of CPP makes it difficult to estimate true prevalence. However, CPP similar to chronic pain syndrome encompasses the following clinical characteristics (5):

duration of 6 months or longer, incomplete relief with most treatments, significantly impaired function at home or work, signs of depression (early awakening, weight loss and anorexia) and altered family roles

Methods

Approach to diagnosis

History taking

It is crucial to get a detailed chronological history of problem, with careful attention to aggravating and relieving factors, as well as results of the previous attempts at treatment. A detailed questionnaire can be given to the patient before history-taking. This makes it more thorough and efficient. Following question must be asked to the patient:

1. When did pelvic pain start?
2. Does the pelvic pain get better or worse with menstruation?
3. Is the pelvic pain annoying, just worrisome or severe enough to interfere with day to day activities?
4. Is there any risk factor for development of sexually transmitted diseases?
5. Is there any possibility of pregnancy (overdue menses)?
6. Anything else which makes the pain worse? bowel movements, full meal, full bladder, urination, stress, exercise, prolong standing, waking, coughing, sneezing, weather, time of day, contact with clothing?
7. Has any examination or surgery been done earlier?
8. What helps the pain? meditation, relaxation, lying down, massages, heating pad, pain medication, laxatives/enema, bowel movement, emptying bladder, nothing?

Physical examination

The physical examination of a patient with CPP is very different from a routine gynecological examination. Bimanual examination is often painful, and emotionally stressful for the patient. This should be performed gently and meticulously, so as to establish trust and confidence with the patients. The following sequence of examination is important:

1. General demeanor, mobility, and posture
Observe the patient when she walks into the office and while she sits recounting her history.
2. Back

Scoliosis, sacroiliac tenderness, trigger points and pelvic asymmetry should be observed.

3. Abdomen

Inspect the abdomen for any skin lesion or scar mark. Examine all quadrants of the abdomen for trigger point (vigorous pain responses to light localized pressure).

4. Head raise test

If pain is relieved on raising the head, cause is intraperitoneal; if pain is worsened or unrelieved, an abdominal wall source (myofascial) should be suspected.

5. Examination of external genitalia

Look for vulvar, vestibular, and urethral point tenderness. Pain in this area in the absence of visible pathology may be indicative of vulvodynia, a condition frequently detected in patients with CPP. Perform a sensory examination with cotton swab to identify areas of tenderness.

6. Per vaginal examination

Single digit examination

Insert one finger into the vagina, assess for tone, muscle control of pelvic floor muscle and any sign of vaginismus. Palpate the pelvic floor muscles and vaginal side walls for reflex sympathetic hypersensitivity. Palpate the urethra and bladder base. An excruciating pain when palpating the anterior vaginal wall is suggestive of interstitial cystitis or urethral syndrome. Cervical tenderness and uterosacral ligament nodularity and localized tenderness indicate endometriosis. Uterine tenderness is indicative of pelvic inflammatory disease, adenomyosis, and pelvic venous congestion.

Bimanual examination

If vaginismus is present, this should not be attempted. A gentle bimanual examination should be performed to delineate the uterus and adnexa. Look for tenderness and masses. Presence of abdominal trigger points may render the examination difficult and confusing; freezing the trigger points with local anesthesia before performing the bimanual examination can help isolate tender areas.

7. Rectovaginal examination

It is an essential step while examining the patient of CPP. Any nodularity behind the uterus between vaginal wall and rectum can be palpated during rectovaginal examination

8. Per speculum examination

Cervical lesions, infections, and endometriotic implants in fornices or vaginal wall can be detected by per speculum examination. Long cotton swab should be used to look for localized tenderness over the cervix, fornices or vault. (Post hysterectomy dyspareunia may arise from nerve entrapment at the vaginal vault.)

9. Psychological assessment

Thorough evaluation of a women experiencing CPP must include an assessment of her emotional experience and other aspects of the chronic pain syndrome. Gynecologists have important role in identifying patients who may benefit from psychosocial assessment and treatment.

Investigation

After thorough history taking and physical examination, specific diagnostic tests must be performed in patient with CPP. These may include complete blood count, cervical swab culture, urine analysis, stool test for ova, cyst or occult blood. Transvaginal sonography (TVS) is more sensitive than transabdominal sonography in evaluating pelvic masses and adenomyosis and endometriosis. Doppler studies evaluate the vascular characteristics of the lesion. Pelvic varicose vein is often associated with CPP of undetermined origin (6). Doppler flow indices demonstrated significant increase of uterine arteries vascularization in CPP women related to pelvic causes (7). Magnetic resonance imaging (MRI) is useful for characterizing pelvic mass, deep endometriosis and adenomyosis.

1. Diagnostic laparoscopy: 40% of diagnostic laparoscopies are done for CPP, and 40% of these reveal nothing abnormal. Endometriosis and pelvic adhesions are the most common abnormalities detected on laparoscopy in various studies. Kresch and colleagues (8) found adhesions and endometriosis to be the most common abnormalities, detected in 51% and 32% of the women, respectively. Laparoscopic findings may differ from the findings of physical examination. In a review of 11 studies of laparoscopic findings in women with CPP, Howard found that up to 50% of patients with negative results on physical examination have abnormal laparoscopic findings (9).

2. Laparoscopic pain mapping: Laparoscopic pain mapping, or patient assisted laparoscopy, is a technique involving conscious pain sedation and local analgesia that is used to identify sources of pelvic pain by reproducing the patient's symptoms with probing or traction of pelvic tissues. Howard (10) found no difference in outcome between 50 patients treated after laparoscopic pain mapping and a historical cohort of 65 patients who underwent traditional laparoscopy and treatment. Most studies involved small groups of patients and have not reported medium and long term outcomes after surgery (11).

3. Cystoscopy: Cystoscopy may be performed if interstitial cystitis (IC) is suspected. Cystoscopic criteria for IC are the presence of glomerulations, submucosal haemorrhages, or ulcers, with bladder distention of 80-100 cmH₂O pressure under

anaesthesia and decreased bladder capacity (less than 350ml) without anaesthesia. Specificity and overall reliability of the above cystoscopic findings in the diagnosis of chronic pelvic pain have been questioned (12).

Discussion

Development of chronic pelvic pain is often multifactorial. Organic and physiological changes affecting the reproductive tract, surrounding viscera and musculoskeletal system may co-exist and must be recognized. Therefore a thorough clinical evaluation must be performed from a medical, surgical, and psychological stand points. The common causes of chronic pelvic pain are listed in table 1. Reuters provide some estimates of the prevalence of various medical causes for CPP (13):

- Dysmotility disorder (including irritable bowel syndrome) 50-80%
- Musculoskeletal disorders 30-70%
- Urological disorder 5-10%
- Advanced endometriosis or dense adhesions <5%
- Multiple medical diagnosis 30-50%
- No identifiable cause < 5%
- Psychological diagnoses 60%

CPP is often associated with substantial psychological impact: identification of psychological factors as cause or effect remains problematic (14).

Predisposing factors for CPP: According to recent systemic literature review (15), several risk factors are associated with CPP. These risk factors are drug or alcohol abuse, miscarriage, heavy menstrual flow, pelvic inflammatory disease, previous caesarean section, pelvic pathology, abuse, and psychological co-morbidity.

1. **Endometriosis:** Endometriosis is defined as the presence of endometrium outside of the endometrial cavity. Both endometrium and stroma have to be present for a histological diagnosis of endometriosis. The incidence of laparoscopy in general population is about 1% to 7 % (16). In women undergoing laparoscopy for CPP, the prevalence of endometriosis is more than 30% (12). Severity of pain does not necessarily correlate with the severity of the disease. Evidence shows that the incidence of endometriosis in asymptomatic women is as high as 45% (17). Treatment of endometriosis associated chronic pelvic pain is as follows:

1. **Medical management:** with combined oral contraceptive pills, progestin only, danazol, GnRH agonist, with or without non steroidal anti inflammatory drugs may be given (18-21).

2. **Laparoscopic management:** with laser treatment, adhesolysis, and uterine nerve transection was compared with expectant management after diagnostic laparoscopy. Operative treatment was significantly more effective than expectant management in reducing symptoms, as assessed subjectively and from pain scores 6 months postoperatively (22).

3. **Definitive Treatment:** with hysterectomy and bilateral salpingo-oophorectomy may be considered if fertility is not desired and medical and conservative surgical therapy fails. However, after such radical surgery, one study found a 3% recurrence of endometriosis (23).

2. **Endosalpingiosis:** This is presence of ectopic tube like ciliated epithelium without stroma. The distribution and gross appearance of the lesions are same as those of endometriosis. A study of 16 Women with endosalpingiosis who presented with a variety of symptoms, including pelvic pain (n=5), and no pelvic pain (n= 5), determined that endosalpingiosis seems to be associated with other pelvic problems rather than a frequent cause of pelvic pain (24).

3. **Adenomyosis:** It is the condition where endometrial gland and stroma is present deep within the myometrium. The incidence of adenomyosis ranges from 5% to 70% (25). TVS may be helpful in the diagnosis of adenomyosis. The sensitivity and specificity of TVS ranged from 52%-89% and from 50% to 100% respectively in 6 series (26). Sensitivity and specificity of MRI ranges from 86% to 100% in symptomatic women. Thus it is an excellent tool for diagnosing adenomyosis (27). Hysterectomy is still the gold standard for relief of pain symptoms. In a patient suffering from infertility, various medications may be used.

4. **Adhesions:** Previous surgery, endometriosis, abdominal and pelvic inflammation and infections are the main causes of intraperitoneal adhesions. Adhesions are found in 25% to 50% of women with CPP, but their role as a cause of CPP is controversial (13). Recent studies shows that adhesiolysis has not been effective in pain control in CPP (28).

5. **Pelvic inflammatory disease (PID):** 18% to 33% of women develop CPP after one episode of PID, regardless of mode of antibiotic therapy (29). Pelvic adhesions following PID are thought to be the cause of CPP, but exact etiology is still unknown.

6. **Residual ovarian syndrome (ROS):** This is characterized as recurrent pelvic pain or persistent pelvic mass after hysterectomy with one or both ovarian preservation. Reported incidence of ROS is 2.8% (73 out of 2561) after hysterectomies with preservation of one or both ovaries over a period of 20 years (30). Re-exploration and removal of the ovary is the treatment of ROS.

7. **Remnant ovarian syndrome:** This syndrome is mainly due to incomplete removal of the ovary during a difficult oophorectomy. The reported incidence of remnant ovarian syndrome is about 18% in a study (31). Complete resolution of symptom is seen in 80% of women, five years after the removal of ovarian remnant.

8. **Pelvic congestion syndrome (PCS):** Pelvic

congestion syndrome is a cluster of pain symptoms associated with the presence of ovarian and pelvic varices associated with venous incompetence and reduced venous clearance in the pelvis. The exact pathology is unknown, and links with psychological, sexual, and genetic biological factors have been hypothesized (32). Common symptoms of PCS are changing location of pain, congestive dysmenorrhoea, deep dyspareunia, exacerbation of pain after prolonged standing and working for many hours in sitting position. Pain is reduced by lying down and elevating the legs. Reported incidence of PCS (as a sole etiology) in several studies is up to 30% in patients of CPP and 12% in combination with other pathology (33). In one study percutaneous transcatheter embolotherapy of pelvic and ovarian varices causes pain relief in 50-80% of patients (34). Hysterectomy and bilateral salpingo-oophorectomy is an effective treatment for CPP due to pelvic varices not responding to conservative management.

9. Non gynecological common causes of CPP:

Interstitial cystitis and irritable bowel syndrome are the two most common conditions frequently associated with CPP.

1. **Interstitial cystitis:** is characterized by chronic pelvic, suprapubic, perineal, vulvovaginal pain and pressure with urinary urgency, diurnal frequency and nocturia in the absence of well defined cause (35). Exacerbation of pain can be experienced during or after sexual intercourse (36).

Irritable bowel syndrome (IBS): is a dysmotility disorder of the bowel which affects up to 15% of adults, and twice more common in women than men (37).

Conclusion(s)

CPP is a diagnostic and management challenge to the clinician and is frustrating for both the patient and the clinician who are in desperate search for some pathological condition. This may be responsible for prolonged suffering and disability, with consequent loss of employment, family conflicts, repetitive unsuccessful treatments, and serial ineffective surgical procedures. Women with chronic pelvic pain will require detailed gynecologic, urologic, gastroenterologist, and psychological assessment. Appropriate evaluations can lead to optimal treatment and decrease the rate of inappropriate interventions. CPP cannot be always cured. Thus reassurance and psychosocial support play important role in the management of CPP.

Abbreviation(s)

CPP-Chronic pelvic pain,TVS -Transvaginal

sonography, MRI-Magnetic resonance imaging,PCS-Pelvic congestion syndrome,PID-Pelvic inflammatory disease,ROS-Residual ovarian syndrome.

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