Medical and surgical management of chronic pelvic pain

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Abstract

Chronic pelvic pain is common and is estimated to affect over one million women in the UK. It may be a symptom of a number of different conditions and is often multifactorial in nature, caused by a combination of physical, psychological and social factors. For many women, a primary cause cannot be identified. This can make both diagnosis and management difficult. Gynaecological causes of chronic pelvic pain include endometriosis, chronic pelvic inflammatory disease and adhesions. The gynaecologist must also consider non-gynaecological causes of pain related to the gastrointestinal, urinary, neurological, musculoskeletal and psychological systems if satisfactory management of the woman's pain is to be achieved.

This review addresses the approach to diagnosis and management of women presenting with chronic pelvic pain. It details specific disease management but also seeks to encourage a holistic approach to all women with chronic pelvic pain, whether or not a primary diagnosis is established.

Keywords chronic pain; disease management; endometriosis; pain management; pelvic pain

Introduction

Chronic pelvic pain (CPP) is common and is estimated to affect up to 25% of women of reproductive age. Definitions for CPP vary, however for the purpose of this article it is defined as "intermittent or constant pain in the lower abdomen or pelvis of at least 6 months duration, not occurring exclusively with menstruation or intercourse and not associated with pregnancy". The reported incidence of CPP in primary care is comparable to that of back pain and asthma and up to 20% of visits to gynaecologists are attributed to CPP. The management of CPP remains challenging: the pathophysiology of CPP is often poorly understood and its multifactorial nature can hinder the diagnostic process. Consequently, for a large proportion of women, investigations and treatments do not result in symptom relief even after many years. Living with CPP results in a significant mental, social and physical burden for the sufferer, which in turn can decrease quality of life, cause psychological distress and impact on the woman's ability to function. This results in a wider economic and social burden.

CPP is known to be associated with a number of gynaecological and non-gynaecological conditions such as endometriosis, adenomyosis, pelvic floor prolapse, adhesions, irritable bowel syndrome and musculoskeletal problems (Box 1). However, whilst the gynaecologist's approach has traditionally focused on an organ-specific approach to diagnosis and hence treatment, in a

Causes of chronic pelvic pain

Gynaecological

- Endometriosis
- Adenomyosis
- Chronic pelvic inflammatory disease
- Pelvic venous congestion
- Adhesions, including residual and trapped ovary syndromes
- Pelvic organ prolapse
- Gynaecological malignancy

Gastrointestinal

- Irritable bowel syndrome
- Inflammatory bowel disease
- Coeliac disease
- Hernia
- Mesenteric venous thrombosis

Urinary

- Bladder pain syndrome (interstitial cystitis)
- Urethral syndrome

Neurological

- Trigger points
- Nerve entrapment
- Damaged nerves
- Pudendal neuralgia
- Perineal pain syndrome

Musculoskeletal

- Fibromyalgia
- Osteoporosis
- Scoliosis
- Piriformis syndrome
- Levator ani spasm or injury

Psychological

- Depression, including post natal depression
- Previous traumatic experience

Unknown aetiology

- Chronic pelvic pain syndrome

Box 1

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majority of cases no underlying pathology can be identified, thus labelling such cases as, "Chronic Pelvic Pain Syndrome (CPPS)". Furthermore, even when pathology is identified, pain can persist despite treatment or be disproportionate to disease extent. Consequently, there is a growing consensus that CPP should be managed holistically from the outset, taking into consideration its multifactorial nature and the involvement of the central nervous system in its aetiology. If possible, this management may occur in the context of a chronic pelvic pain multidisciplinary team.

Role of central nervous system in CPP

Any experience of pain involves the central nervous system (CNS) and that pain can be generated and perpetuated by the CNS itself, no matter where the pain is perceived to originate. Chronic pain, irrespective of its origin, is associated with long-lasting changes to the structure and function of the CNS and there is good evidence that this is true for many gynaecological conditions associated with CPP. Furthermore, CNS dysfunction itself can result in altered organ function leading to symptoms such as urinary frequency or retention, diarrhoea and constipation, which are commonly associated with CPP. It is therefore suggested that the initiation of treatments which target the CNS in patients with CPP will hopefully both help to alleviate symptoms and improve quality of life but also possibly help prevent the development of long-lasting central changes.

Establishing a diagnosis

Establishing a diagnosis in CPP is often difficult and many women experience a significant delay in diagnosis as a result. There are frequently multiple components to CPP and therefore assessment should aim to identify these contributory factors rather than seeking for a single pathological cause, remembering that a cause is often not clearly identified at the initial review. Women with CPP need to be able to tell their story, be listened to and believed. They often have their own theory or concern regarding the cause of the pain and this should be explored. This improves the doctor–patient relationship and can be a positive experience for the woman as well.

History

A detailed history should be obtained outlining the nature, frequency, pattern and site of the pain as well as its relationship to precipitating/relieving factors, including its relation to movement and posture, and the menstrual cycle. Although pain can vary over the menstrual cycle, strikingly cyclical pain in likely to be gynaecological in origin. A pain diary for 2–3 menstrual cycles can help identify provoking factors and temporal associations. Associated gynaecological, urogenital and bowel symptoms should be sought. If history suggests a specific non-gynaecological component to the pain, referral to the relevant healthcare professional should be considered.

It is important to enquire about the woman's level of functioning and symptoms relating to overall wellbeing such as psychological and social factors, affect on employment, affect on sexual functioning and relationships, sleep disturbance, tearfulness and appetite. Depression and sleep disturbance often co-exist with CPP as either a cause or consequence and specific treatment may improve the woman's ability to function. Enquiry regarding a history of physical or sexual abuse should be made sensitively. The relationship between CPP and abuse is complex however it may be that for some women, child sexual abuse may predispose them to CPP as an adult. The possibility of continuing abuse should also be considered. Appropriate support services, such as counselling, should be offered where possible.

Examination

This should be performed sensitively with the awareness that new information may be revealed at this time and that the woman may find examination very painful. It should include abdominal and pelvic examinations, specifically to identify obvious gynaecological pathology, areas of tenderness, enlargement, distortion and tethering, or pelvic organ prolapse. Deep endometriosis may be revealed as tenderness of the cul-de-sac and uterosacral ligaments whilst tenderness of the uterus may signify adenomyosis. Tender trigger points located in the abdominal wall and/or pelvic floor or tenderness of the symphysis pubis or sacroiliac joints may identify musculoskeletal components to the pain. Abnormalities in muscle function should be assessed.

Investigations

Simple bedside investigations should be undertaken as part of the initial assessment if indicated by the history given. Infection should be considered and in sexually active women with pelvic pain, screening for sexually transmitted infections such as *Chlamydia trachomatis* and *Neisseria gonorrhoea* should be performed. Urinalysis, followed by microscopy and culture if indicated, should be performed due to the overlap between urological and gynaecological causes of CPP.

"Red flag" symptoms should be investigated to exclude potential malignancy. A serum CA-125 and pelvic ultrasound scan should be performed in women reporting persistent or frequently occurring bloating, early satiety, pelvic/abdominal pain or increased urinary urgency/frequency to exclude ovarian cancer. New irritable bowel syndrome (IBS) symptoms in women over 50 years of age should be investigated to exclude bowel cancer.

Initial radiological investigation often involves transvaginal ultrasound (TVS) as this is useful in identifying structural abnormalities such as fibroids, and pelvic masses including endometriomas. Both TVS and magnetic resonance imaging (MRI) are comparable for the identification for adenomyosis. Peritoneal endometriosis, especially deeply infiltrating endometriosis, remains difficult to confidently diagnose through imaging alone. The role of imaging modalities for the non-invasive diagnosis of endometriosis remains uncertain. A recent Cochrane review found that none of the evaluated imaging modalities were able to detect pelvic endometriosis with enough accuracy to replace laparoscopic survey. It did, however, note that recent advances in imaging (new types of ultrasound and MRI) show promising results but that further studies are required to properly evaluate their diagnostic role. Similarly, other recent Cochrane reviews have evaluated the use of urinary, blood and endometrial biomarkers to diagnose endometriosis. There was insufficient evidence to recommend any urinary or blood biomarkers as a replacement for surgery although several of those assessed may have diagnostic potential pending further evaluation. Several endometrial biomarkers showed considerable promise for diagnostic accuracy including one, Protein Gene Product 9.5 (PGP 9.5), which met the criteria for a diagnostic test but whose results demonstrated considerable inter-study heterogeneity. Therefore overall there is insufficient evidence to allow clinical

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