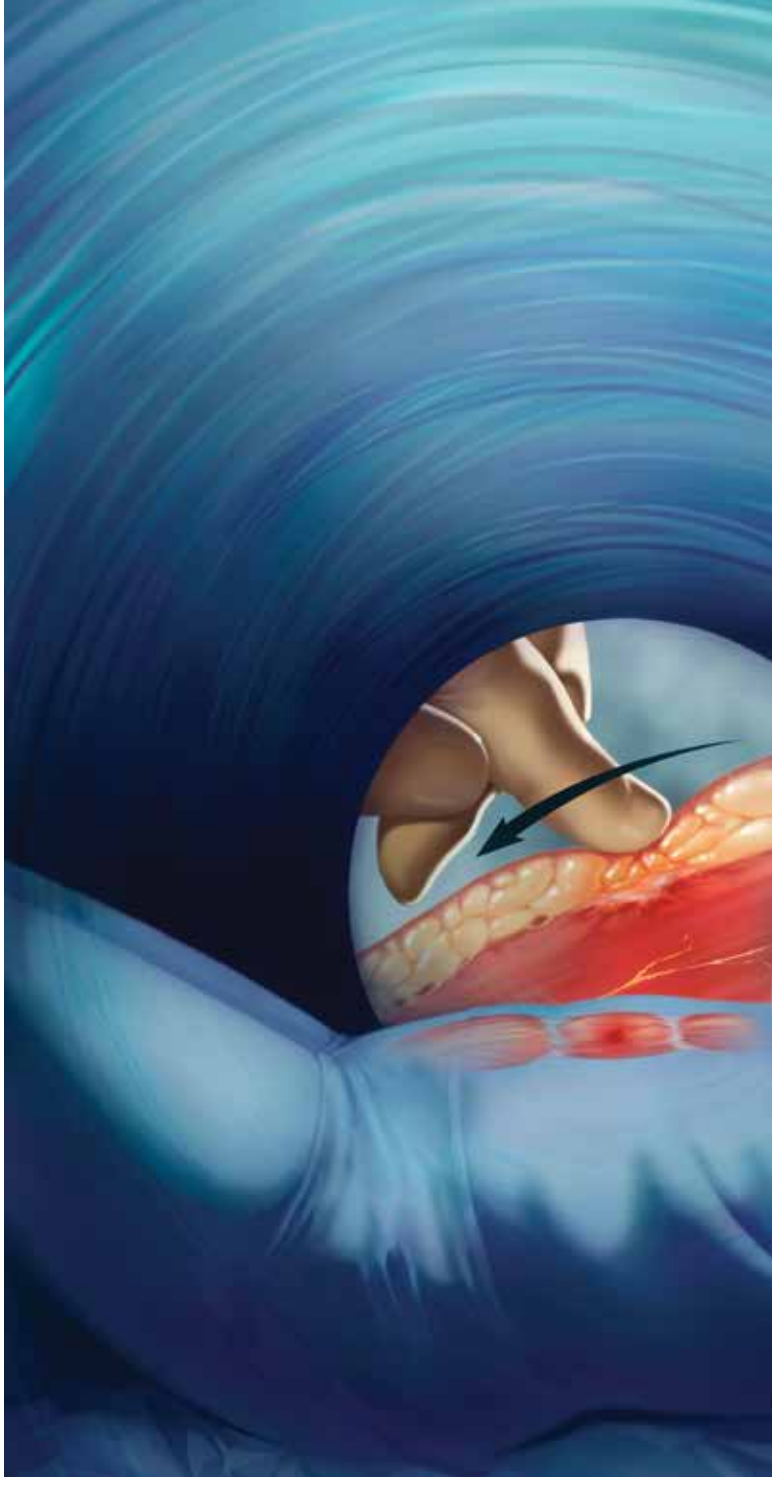
Chronic pelvic pain in women

The role of primary care

ELIZABETH ARMARI MB BS, MWomHMed, MRMed, BMedSc
SONYA TING MB BS, FANZCA

Chronic pelvic pain has multiple, intertwined aetiologies and is challenging to manage within short consultation times. General practice is often the starting point for evaluation of affected women and plays an important part in continuity of care and long-term follow up. Prompt management of dysmenorrhoea and dyspareunia may reduce the burden of chronic pelvic pain.



© SCIENCE SOURCE/DNA ILLUSTRATIONS

Chronic pelvic pain (CPP) in women is a debilitating symptom of multiple, intertwined aetiologies. Despite an estimated global burden between 12.7% and 24%,[1,2] CPP remains largely under-reported, poorly understood and may be challenging to manage within short consultation times. CPP is a chronic or persistent pain perceived in structures related to the pelvis associated with negative cognitive, behavioural and sexual consequences experienced by nonpregnant women lasting for more than six months.[3] The inclusion of dysmenorrhoea or dyspareunia as components of this CPP definition is variable,[4] but their significance as risk factors and early intervention opportunities should be acknowledged.[2,3]

Women with CPP account for 20% of all outpatient gynaecological referrals at an exorbitant cost to the secondary healthcare sector.[2,5] However, general practice is often the initial starting point for evaluation of women with CPP, who often present with coexisting migraine or lower back pain. General practice also offers the benefit of continuity of care and most management options can be implemented without the need for specialist referral. Although chronic pain syndromes are estimated to cost Australia more than $6 billion

PAIN MANAGEMENT TODAY 2017; 4(2): 6-11

Dr Armari is Resident Medical Officer, and Dr Ting is Pain Fellow at King Edward Memorial Hospital, Perth, WA.

annually in direct costs and significantly reduce the quality of life of affected women, CPP is not considered a national health priority area.[6,7]

GPs with an interest and skillset to manage CPP have the capacity to achieve substantial improvement in patients' quality of life and act as a point of familiarity throughout the often lengthy, diagnostic process. Challenges in diagnosing and managing CPP lie in that it is rarely attributed to a single obvious pathology or source of tissue damage.[1] Any combination of genitourinary, gastrointestinal, neurological, vascular or musculoskeletal system dysfunction may underlie the aetiology of CPP. In contrast to other chronic pain syndromes, CPP often has embarrassing gender, sexual and fertility overtones making the topic difficult to discuss and the doctor–patient

Key points

- **Chronic pelvic pain (CPP) is a chronic or persistent pain perceived in structures related to the pelvis associated with negative cognitive, behavioural and sexual consequences in nonpregnant women lasting for more than six months.**
- **Women with CPP may also experience coexisting migraine or lower back pain.**
- **A comprehensive patient history is the most valuable tool in assessing a woman with CPP and is reliant on a strong patient–doctor relationship, coupled with regular follow up to overcome the barriers of time-limited general practice settings.**
- **Timely management of acute pain syndromes such as dysmenorrhoea or dyspareunia is achievable in primary practice settings, and provides important opportunities to prevent the development of CPP.**
- **Management approaches should prioritise improved function and general wellbeing over cure, with nonpharmacological approaches including physiotherapy intervention, psychological counselling and management of comorbidities as central components.**

interface even more crucial.[8] The impact of CPP on sexual function is often particularly distressing and has significant impact on women's personal relationships, self-esteem and willingness to openly discuss their symptoms. With high concurrent rates of depression, anxiety, somatic symptom disorder and childhood sexual abuse, the general practice environment further plays an important role in simultaneously managing these comorbidities, albeit over successive consultations and with multidisciplinary input.[9,10]

A retrospective study highlights the difficulty women with CPP have finding effective care, which showed that 28% of women (n = 5051) failed to receive a diagnosis for their CPP and only 40% had evidence of specialist referral within a four-year period.[5] Interestingly, another study showed that only one-third of women with CPP seek advice from a healthcare professional, indicating that disease burden is largely underestimated.[11] Although there are limited data exploring barriers to diagnosis and care, a multifaceted diagnostic and treatment approach beginning at the first point of care is essential.

Mechanisms of chronic pain and prevention opportunities

CPP results from a combination of nociceptive and neuropathic pain in variable degrees. Nociceptive pain is a consequence of actual or threatened damage to non-neural tissue via the activation of nociceptors,[3,12] whereas neuropathic pain results from direct insult to the somatosensory nervous system and is typically described as a burning sensation or paraesthesia.[1]

Table. Aetiology of chronic pelvic pain in women by organ system

Gynaecological	Urological	Gastrointestinal	Neurological/ Musculoskeletal	Psychological
• Endometriosis • Adenomyosis • Fibroid uterus • Pelvic inflammatory disease • Cervical, uterine or ovarian carcinoma • Complicated pelvic organ prolapse • Primary dysmenorrhoea • Obstructive dysmenorrhoea (congenital or acquired)	• Interstitial cystitis • Recurrent urinary tract infection • Malignancy of the ureters, bladder or urethra • Urethral pain syndrome • Painful bladder syndrome	• Irritable bowel syndrome • Inflammatory bowel disease • Adhesions • Gastrointestinal malignancy • Chronic anal pain syndrome (previously known as proctalgia fugax)	• Pelvic floor muscle dysfunction (myofascial trigger points, hypertonicity) • Neuralgia of pelvic nerves secondary to surgical incision/damage	• Anxiety • Depression • History of sexual abuse • Somatic symptom disorder

Although there are clear intuitive and temporal distinctions between acute and chronic pain, a functional transition from one to the other is evident in clinical practice. Plasticity of the nociceptive system has long been implicated in this transition, but underlying mechanisms have only recently been uncovered. Hyperalgesic priming has been described in which transient inflammatory insults or environmental stressors trigger long-lasting hypersensitivity of nociceptors via activation of protein kinase Cε.[12] Moreover, the role of both peripheral and central sensitisation in increasing receptor sensitivity through alteration of ion-gated channel activation kinetics and exaggerating pain response through summation of repeated, mild insults (wind-up) is largely acknowledged.[13]

In contrast to many other areas of chronic pain, it may be possible to recognise early and prevent CPP in women, as acute pain may trigger chronic pain syndromes and effective treatment can be instigated early.[7] Dysmenorrhoea and dyspareunia have been identified as significant early risk factors for developing CPP.[2] With more than 70% and 14% of women in Australia reporting dysmenorrhoea and dyspareunia, respectively, seizing early treatment opportunities at each general check up may significantly reduce the burden of CPP.

History taking and establishing the therapeutic relationship

A comprehensive patient history is the most valuable tool in assessing a woman with CPP. Guidelines developed by the European Association of Urology promote a systems-based evaluation whereby the clinician evaluates each organ system and in the first instance excludes well known conditions associated with CPP such as endometriosis, painful bladder syndrome, irritable bowel syndrome or pelvic inflammatory disease (Table).[14] Red flag symptoms such as rectal or vaginal bleeding, unintentional weight loss, altered bowel habits or abdominal bloating must be identified as abdominal or pelvic malignancies are rare but not uncommon, especially in postmenopausal women with CPP.

Thorough scrutiny of the character of pain, duration, intensity, timing, exacerbations and relation to menses, sexual intercourse, defaecation, urination, recent surgery or childbirth should be elicited in the patient's own words. This often provides a good indication of the causes of pain. The presence of multiple pain comorbidities is common. Overshadowing the patient's description of their experiences with medical terminology negates a woman's ability to take responsibility for her condition and strains the patient–doctor interface.[15]

Women with CPP want to be taken seriously, desire reassurance that their condition is not life-threatening and attach importance to having an explanation for their pain.[15,16] A survey of women using CPP services in New Zealand reported an increasing loss of self-control with repeated doctor visits and lack of communication regarding investigation pathways and treatment options.[15] The multifactorial nature of CPP should be openly addressed in early consultations and an assessment on restriction of daily activity made.[4] Acknowledging the patient's pain even in the absence of an obvious pathology is important, as is explaining that pain can persist long after a stimulus is removed. A patient questionnaire to assist GPs in taking a quick and comprehensive history is available from the Pelvic Pain Foundation of Australia website (www.pelvicpain.org.au/information/information-for-health-professionals/resources-women/), which can be completed confidentially.

Although difficult in busy practice settings, discussion of previous sexual, physical and emotional abuse should be included in any chronic pain assessment. Use of a questionnaire such as that provided by the Pelvic Pain Foundation of Australia may highlight this as a source of comorbidity and signal the need for psychological referral. Severe childhood sexual or physical abuse has been shown to be

1. A common story in the chronic pain clinic

Camilla, a 35-year-old woman, has had dysmenorrhoea since menarche and chronic abdominal and pelvic pain for the past four years. She has received multiple specialist opinions, psychological assessments and five diagnostic laparoscopies. She has also trialled various analgesic regimens, which have included use of strong opioids. Mild endometriosis had been diagnosed and adhesions excised; however, dysmenorrhoea and chronic pain symptoms remained and laparoscopic hysterectomy was recommended as a 'cure'. She has previously had six miscarriages but finally had a daughter five years ago and had reconciled that her family was complete.

Six weeks after the laparoscopic hysterectomy the pain not only worsened but became an unrelenting sharp, burning pain. Camilla expressed that the little quality of life she had before the procedure was now gone; she could no longer sleep and had new dyspareunia and severe dysuria associated with needing to void 12 times per day. Her husband became a stranger and, most distressingly, she was unable to care for her daughter. Any movement would have her in tears despite another regimen of short-acting and immediate-release opioids. Her gynaecologist apologised and told her she was unfortunately in the small percentage of women in which pain worsened postprocedure and nothing else could be done for her and no further follow up was offered.

Camilla also experienced concurrent depression and suicidal ideation. Acute postoperative complications were excluded with examination and imaging, which she found reassuring.

Another review of this patient in general practice was made, with Camilla describing her pain history in her own words. Her pain began with severe dysmenorrhoea from menarche, followed by an undiagnosed L5/S1 disc prolapse managed with surgery after years of chronic back pain that had been ignored. When asked directly, she revealed a history of childhood sexual abuse that had never been addressed or acknowledged. Over time, the pain became present for an increasing numbers of days per month, and included a stabbing pain on both sides that radiated through to her back, representing secondary pelvic muscle spasm. Her life became more sedentary in an attempt to avoid pain, which further aggravated her pelvic muscle spasm. No medications for neuropathic pain had been trialled.

A temporal sequence of this patient's pain history had now become clear and the multidimensional nature of her pain syndromes could be compartmentalised and dealt with openly. Management of Camilla's CPP required ongoing multidisciplinary input and an individual commitment to regular follow up which was clearly addressed and agreed upon on initial consultation. Therapeutic goals were to improve functionality, combat concurrent depression and previous distress with psychology-led therapy and gradually wean off opioid medication with guidance from her GP and input from chronic pain medicine specialists. Although her CPP continues to persist, establishing routine with daily physical activity and continued feedback, her quality of life has significantly improved.

associated with a four- to six-fold increased risk of CPP in adulthood.[17] Furthermore, severe adolescent or adult sexual abuse was associated with greater CPP-related disability.[10]

Examination and investigation

Clinical examination of all abdominal and pelvic systems is an important step in the assessment of CPP but has limited specificity. However, focal tenderness, masses, distortion, engorgement and pelvic organ prolapse should be identified. Screening for both sexually transmitted diseases and urinary tract infections should be performed routinely. For women with risk factors for malignancy, measurement of CA-125 levels should be considered. Single digit palpation of at least the levator ani muscles should always be performed before speculum examination to assess pelvic floor tone and presence of myofascial trigger points.

Transvaginal ultrasound is useful in identifying adnexal masses and other relevant pathologies such as hydrosalpinx or fibroids. If transvaginal ultrasound is performed before laparoscopy, the presence of soft markers, such as tenderness or poor ovarian mobility, has shown to improve the likelihood of identifying relevant pathology at laparoscopy from 58 to 73%.[4,17] Diagnostic laparoscopy remains the gold standard in the investigation of CPP as it is the only test that can reliably identify peritoneal endometriosis and adhesions, but its usefulness beyond this is limited. However, one-third to one-half of diagnostic laparoscopies will be negative in women with CPP and there are risks of serious complications such as adhesion formation, organ injury and/or perforation (2.4 in 1000) and death (1 in 10,000).[4]

Targeted treatment approaches

A story of a patient with CPP is described in Box 1 and serves as an important insight to the potential endpoints for a woman with CPP if not managed effectively in the early stages. Moreover, it highlights that a simple and holistic approach to pain instigated by a GP may curb unnecessary opioid use, allow for allied health assessment such as physiotherapy and provide continuity in long-term care. An approach to care that prioritises improved function and general wellbeing over cure is an emerging focus of CPP management, which must be tailored to the individual.[7]

Although the development of CPP shares common beginnings with other pain syndromes, there are a few defined aetiologies that are implicated in CPP specifically and warrant additional treatment considerations (Box 2).

2. Management options for chronic pelvic pain

- **Use nonpharmacological strategies as a first-line approach**
  - promote physical activity
  - recommend relaxation and stress reduction techniques
  - treat comorbid pain syndromes and conditions
  - refer patient for psychological support
  - refer patient for physiotherapy review and assessment
- **Prescribe short-term analgesics as required, according to the World Health Organization analgesic ladder (see Figure)**
- **Treat confirmed or suspected endometriosis**

  Suppression of ovulation can be achieved with use of:
  - dienogest 2 mg/day
  - norethisterone acetate 5 mg/day
  - medroxyprogesterone acetate
  - combined oral contraceptive pill
  - levonorgestrel-releasing intrauterine device
  - goserelin or danazol (although these have now been largely replaced)

  Referral of patient for surgical removal of adhesions may be warranted
- **Treat postoperative pain**
  - use short-term analgesics (e.g. regular paracetamol, NSAIDs or opioids if required) to improve immediate postoperative pain
  - prevent concurrent constipation, urinary retention and immobility
  - trial pregabalin, amitriptyline (off-label), duloxetine (indicated for diabetic peripheral neuropathic pain only) or gabapentin if neuropathic pain is present

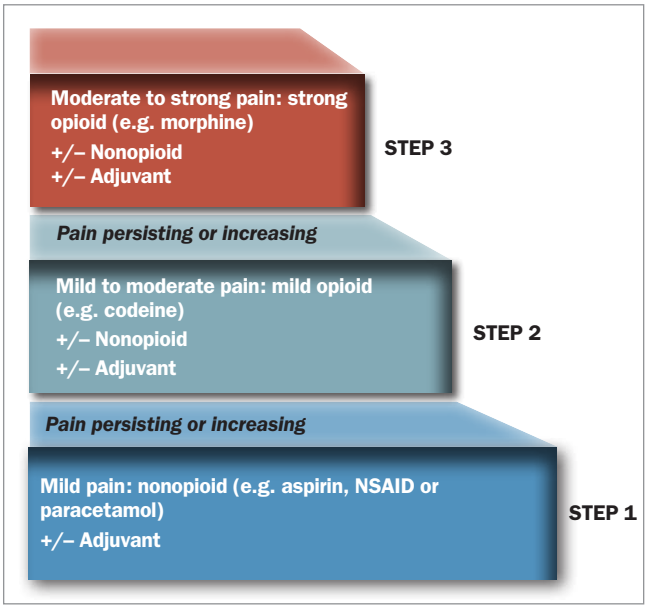


Figure. The World Health Organization analgesic ladder for pain management.

Basic principles

Treatment of CPP should begin with nonpharmacological strategies. Although there is limited, high-grade evidence evaluating these strategies specifically to CPP, studies of other chronic pain syndromes provide basic principles that can be extrapolated and safely applied.

Promote regular physical activity

Regular, low- to moderate-intensity physical activity (aiming for 50 to 60% of maximum heart rate) increases physical function and has been shown to be slightly effective in reducing chronic lower back pain.[18,19] Although avoidance of exercise in acute flares of pain is tempting, sedentary behaviour may worsen symptoms causing secondary spasm, and this should be discussed with patients. Low-intensity warm-water pool exercise performed twice per week was shown to have an immediate positive effect on pain in people with fibromyalgia[20] and may be worth trialling as a gentle introduction to physical activity for women with CPP.

Treat comorbid pain syndromes and concurrent conditions

A prospective study of 108 women with CPP with or without endometriosis showed that 67% had a lifetime prevalence of also experiencing migraines.[21] This not only contributes to the disability of CPP, but also highlights that both pain syndromes may share a common pathophysiology requiring consideration in the management of CPP.[21] Lessons learned from clinical practice highlight that this may be true of other chronic pain syndromes coexisting with CPP. Minimising constipation, treating bladder pain and screening for urinary tract or sexually transmitted infections should also be considered.

Offer psychological support

As chronic pain is related to depression and anxiety, psychological support can provide women with valuable coping strategies and a safe place to address previous distress. A Cochrane review demonstrates that cognitive behavioural therapy offers some improvement in pain and a moderate benefit in pain-associated disability in patients with longstanding disabling pain, when compared with behavioural therapy or no treatment.[22]

The role of analgesics

Use of the principles of the World Health Organization analgesic ladder is an important foundation for the treatment of acute and chronic nonmalignant pain, which can be instigated at all levels of health care (Figure).[1] Focus should be placed on the synergistic action of nonpharmacological strategies with use of paracetamol, NSAIDs and milder opioids (e.g. tramadol or tapentadol) depending on underlying aetiologies. Stronger opioids such as oxycodone, morphine or methadone are best avoided because of their side-effect

profiles and addictive properties. They are only appropriate for short-term use with guidance from pain specialists and should not constitute mainstay therapy.

Treatment of dysmenorrhoea in women with endometriosis

It is estimated that between 70 and 90% of women with CPP also have endometriosis, although disease severity fails to correlate with pain severity.[23] Menstrual suppression is the goal of symptomatic treatment and is readily achieved with use of the combined oral contraceptive pill, etonogestrel implant, medroxyprogesterone acetate or the levonorgestrel-releasing intrauterine device depending on patient preference and individual contraindications. Use of goserelin (a gonadotrophin-releasing hormone agonist) or danazol have been shown to reduce pain associated with endometriosis;[4] however, use must be limited to six months and their respective side-effect profiles have ensured they are now largely replaced in clinical practice.

Recent attention has been placed on the use of low-dose progestins. Dienogest 2 mg per day has been shown to significantly reduce pelvic pain in women with endometriosis, and this effect lasted for at least 24 weeks after treatment cessation.[24] However, one-quarter of women using dienogest still required simultaneous analgesic use.[25] Long-term use of norethisterone acetate 5 mg per day is also an appropriate alternative, and comes with an added contraceptive effect.[25] Irregular uterine bleeding, particularly in the first weeks of use, is a common side effect of all long-term progestogens and should be discussed before initiating treatment to improve long-term therapy compliance.[24]

Removal of mild to moderate adhesions of endometriosis via laparoscopic surgery was found to significantly improve CPP with no difference between excision or ablation techniques identified.[26] Postoperative insertion of the levonorgestrel-releasing intrauterine device should also be considered, with significant reduction in the reoccurrence of dysmenorrhoea and greater patient satisfaction demonstrated when compared with no postoperative treatment.[27]

Management of pelvic muscle pain and dysfunction

Hypertonicity of the pelvic floor muscles is thought to develop from a vicious cycle of inflammatory, cognitive and behavioural factors that trigger a defence-to-pain response with overly tight and painful pelvic muscles. Pain is commonly stabbing and aggravated by prolonged positions, core-strength exercises or vaginal penetration. Myofascial pain is a regional condition characterised by the presence of myofascial trigger points across the levator muscles, which are focally taut bands within the muscles themselves.[28]

Failure to recognise dysfunction of pelvic floor muscles contributes to 24 to 40% of negative laparoscopy results.[29] The importance of physiotherapy with pelvic floor muscle exercises, biofeedback and electrical stimulation techniques is well documented and early referral of the patient to a physiotherapist who is experienced in the management of tight and painful pelvic floor muscles is paramount.

Injection of focally tender points with a long-acting anaesthetic such as bupivacaine has had reported success,[1] as has the use of botulinum toxin A (off-label use) for patients with refractory myofascial pain.[30]

Treatment of postsurgical pain

A positive correlation between a history of caesarean section and CPP (odds ratio 3.7; $p<0.05$) has been shown even when additional causes of pelvic pain were accounted for in a study of 199 Brazilian women.[31] The incidence of nerve entrapment after one pfannenstiel incision is 3.7%.[4] After an abdominal hysterectomy, the prevalence rate of pain varies from 5 to 32%.[32] It is estimated that 10% of women experience significant pelvic pain up to three months after childbirth, and this is likely to be higher in the 35 to 40% of women who have episiotomies.[33] Assessment of pain severity and effects on function should therefore be routinely discussed at postnatal checks.

Tissue injury postsurgery has both an inflammatory and neuropathic component related to direct damage to nerves traversing the surgical plane and can apply to any surgical intervention in the abdomen or pelvis.[34] Antiepileptics (such as gabapentin and pregabalin), serotonin and noradrenaline reuptake inhibitors (such as duloxetine [indicated for diabetic peripheral neuropathic pain only]) and tricyclic antidepressants (such as amitriptyline [off-label use]) constitute the mainstay of neuropathic pain therapy. A reduction in neuropathic pain intensity by 50% has been shown in 35% of patients with chronic pain taking gabapentin, compared with 21% taking placebo.[34] Although this study was not specifically in women with CPP, gabapentin may be reasonable to trial in these patients. Gabapentin with or without amitriptyline may be better for refractory neuropathic CPP than amitriptyline alone.[16]

Take home points to consider

CPP is common and often mismanaged within the constraints of a time-poor model of care. The presence of multiple pain symptoms and pain comorbidities is common and treatment may require trialling a range of options. A step-wise and thorough approach beginning with the patient's story is fundamental to identifying the multiple components that have led to the patient's pain experience. Importantly, early effective management of acute pain, including dysmenorrhoea or postsurgical pain, has the potential to prevent or minimise CPP.

With a focus on symptom support rather than cure, timely instigation of multidisciplinary management and open acknowledgment of this process, substantial improvement in quality of life for women with CPP can be achieved. **PMT**

References

A list of references is included in the online version of this article (www.painmanagementtoday.com.au).

COMPETING INTERESTS: None.

Chronic pelvic pain in women

The role of primary care

ELIZABETH ARMARI MB BS, MWomHMed, MRMed, BMedSc; **SONYA TING** MB BS, FANZCA

References

1. Gunter J. Chronic pelvic pain: an integrated approach to diagnosis and treatment. Obstet Gynecol Surv 2003; 58: 615-623.
2. Latthe P, Mignini L, Gray R, Hills R, Khan K. Factors predisposing women to chronic pelvic pain: systematic review. BMJ 2015; 322: 749-751.
3. International Association for the Study of Pain (IASP). Classification of chronic pain: descriptions of chronic pain syndromes and definitions of chronic pain terms. 2nd ed. Seattle; IASP Press, 2011.
4. Royal College of Obstetricians and Gynaecologists (RCOG). Green-top guideline No. 41. The initial management of chronic pelvic pain. 2nd ed; 2011.
5. Zondervan KT, Yudkin PL, Vessey MP, Dawes MG, Barlow DH, Kennedy SH. Prevalence and incidence of chronic pelvic pain in primary care: evidence from a national general practice database. BJOG 1999; 106: 1149-55.
6. Simoens S, Dunselman G, Dirksen C et al. The burden of endometriosis: costs and quality of life in women with endometriosis and treatment in referral centres. Hum Reprod 2012; 27: 1292-1299.
7. Evans S. Chronic pelvic pain in Australia and New Zealand. Aust N Z J Obstet Gynaecol 2012; 52: 499-501.
8. Evans S. Management of persistent pelvic pain in girls and women. Aust Fam Physician 2015; 44: 454-459.
9. Ahangari A. Prevalence of chronic pelvic pain among women: an updated review. Pain Physician 2014; 17: 141-147.
10. As-Saine S, Clevenger BA, Geisser ME, Williams DA, Roth RS. History of abuse and its relationship to pain experience and depression in women with chronic pelvic pain. Am J Obstet Gynecol 2014; 210: 317.e1-8.
11. Pitts MK, Ferris JA, Smith AM, Shelley JM, Richters J. Prevalence and correlates of three types of pelvic pain in a nationally representative sample of Australian women. Med J Aust 2008; 189: 138-143.
12. Reichling DB, Levine JD. Critical role of nociceptor plasticity in chronic pain. Trends Neurosci 2009; 32: 611-618.
13. Ji RR, Kohno T, Moore KA, Woolf CJ. Central sensitization and LTP: do pain and memory share similar mechanisms? Trends Neurosci 2003; 26: 696-705.
14. Fall M, Baranowski AP, Elneil S, et al. EAU Guidelines on chronic pelvic pain. Eur Urol 2010; 57: 35-48.
15. Grace VM, MacBride-Stewart S. 'How to say it': women's descriptions of pelvic pain. Women Health 2007; 46: 81-98.
16. Daniels J, Khan K. Chronic pelvic pain in women. BMJ 2010; 341: c4834.
17. Harlow BL, Gunther Stewart E. Adult-onset vulvodynia in relation to childhood violence victimization. Am J Epidemiol 2005; 161: 871-880.
18. Ambrose KR, Golightly YM. Physical exercise as non-pharmacological treatment of chronic pain: why and when. Best Pract Res Clin Rheumatol 2015; 29: 120-130.
19. Hayden J, van Tulder MW, Malmivaara A, Koes BW. Exercise therapy for treatment of non-specific low back pain. Cochrane Database Syst Rev 2005; (3): CD000335
20. Segura-Jiménez V, Carbonell-Baeza A, Aparicio VA, et al. A warm water pool-based exercise program decreases immediate pain in female fibromyalgia patients: uncontrolled clinical trial. Int J Sports Med 2013; 34: 600-605.
21. Illowsky Karp B, Sinaii N, Nieman LK, Silberstein SD, Stratton P. Migraine in women with chronic pelvic pain with and without endometriosis. Fertil Steril 2011; 95: 895-899.
22. Williams AC, Eccleston C, Morley S. Psychological therapies for the management of chronic pain (excluding headache) in adults. Cochrane Database Syst Rev 2012;(11) CD007407.
23. Gambone JC, Mittman BS, Munro MG, Scialli AR, Winkel CA. Chronic Pelvic Pain/Endometriosis Working Group. Consensus statement for the management of chronic pelvic pain and endometriosis: proceedings of an expert-panel consensus process. Fertil Steril 2002; 78: 961-972.
24. Petraglia F, Hornung D, Seitz C, et al. Reduced pelvic pain in women with endometriosis: efficacy if long term dienogest treatment. Arch Gynaecol Obstet 2012; 285: 167-173.
25. Zito G, Luppi S, Giolo E, et al. Medical treatment for endometriosis-associated pelvic pain. Biomed Res Int 2014; 191967.
26. Duffy JMN, Arambage K, Correa FJS, et al Laparoscopic surgery for endometriosis. Cochrane Database Syst Rev 2014; (4): CD011031.
27. Abou-Setta AM, Houston B, Al-Inany HG, Farquhar C. Levnogestrel-releasing intrauterine device (LNG-IUD) for symptomatic endometriosis following surgery. Cochran Libr 2013; (1) CD005072.
28. Bergeron S, Rosen NO, Morin M. Genital pain in women: beyond interface with intercourse. Pain 2011; 152: 1223-1225.
29. Weiss PM, Rich J, Swisher E. Pelvic floor spasm: the missing link in chronic pelvic pain. Contemp Ob Gyn 2012; Oct 1. Available online at: http://contemporaryobgyn.modernmedicine.com/contemporary-obgyn/content/tags/chronic-pain/pelvic-floor-spasm-missing-link-chronic-pelvic-pain?page=full&utm_source=TrendMD&utm_medium=cpc&utm_campaign=Contemporary_OB%252FGYN_TrendMD_0 (accessed July 2017).
30. Adelowo A, Hacker MR, Shapiro A, Modest AM, Elkadry E. Botulinum toxin type A (BOTOX) for refractory myofascial pelvic pain. Female Pelvic Med Reconstr Surg 2013; 19: 288-292.
31. Ameida ECS, Nogueira AA, Candido do Reis FJ, Rosa e Silva JC. Caesarean section as a cause of chronic pelvic pain. Int J Gynaecol Obstet 2002; 79: 101-104.
32. Brandsborg B. Pain following hysterectomy: epidemiological and clinical aspects. Dan Med J 2012; 59(1): B4374.
33. Delaram M, Dadkhah NK, Jafarzadeh L. Comparison of indomethacin suppository and lidocaine cream on post-episiotomy pain: a randomized trial. Iran J Nurs Midwifery Res 2015; 20: 450-453.
34. Moore RA, Wiffen PJ, Derry S, Rice AS. Gabapentin for chronic neuropathic pain and fibromyalgia in adults. Cochrane Database Syst Rev 2014; (4) CD007938.