

Chronic pelvic pain in benign and functional urological conditions: A review and comparison of the UK and European guidelines

Journal of Clinical Urology
2018, Vol. 11(2) 115–121
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DOI: 10.1177/2051415816686790
journals.sagepub.com/home/uro



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Abstract

We aim to provide a general overview of the available UK and European guidelines on non-oncological causes of chronic pelvic pain, and highlight any differences in practice. We have reviewed the current guidelines on chronic pelvic pain syndrome (defined as chronic pelvic pain with no identified underlying cause and/or the pain is non-specific or involves more than one organ) and other specific organ pain syndromes particularly relevant to urological clinical practice, including prostate pain syndrome, bladder pain syndrome and gynaecological causes of chronic pelvic pain. We have identified a relative paucity of UK guidelines, and accept that the European Association of Urology provides a comprehensive and current evidence based reference and guide which is utilised and regarded by most urologists as the ‘gold standard’ in UK practice.

Keywords

Chronic pelvic pain syndrome, prostate pain syndrome, bladder pain syndrome

Date received: 14 June 2016; accepted: 14 November 2016

Introduction

Chronic pelvic pain syndrome (CPPS) refers to the presence of chronic pelvic pain (CPP) with no identified pathology, in comparison to ‘specific disease-associated pelvic pain’ in which an underlying pathology is identified (such as cancer or infection). The European Association of Urology (EAU) describes CPPS as ‘chronic or persistent pain perceived in structures related to the pelvis of either men or women’ persisting or recurring for at least 6 months.^{1,2} ‘It is often associated with negative cognitive, behavioural, sexual or emotional consequences, as well as with symptoms suggestive of lower urinary tract, sexual, bowel or gynaecological dysfunction’.^{1,2} When one end organ appears to be responsible predominantly for localised symptoms, a specific organ pain syndrome term is used (Table 1), although even then many patients will report a wide range of associated and co-existing symptoms and disorders. When more than one

organ is involved, or symptoms are not organ specific, the term CPPS is applied. Due to the heterogeneity of these conditions and a lack of high quality evidence, relatively few guidelines are available, making a comparison of UK and European standards difficult, particularly as levels and grades of evidence can also vary. While the National Institute for Health and Care Excellence (NICE) offers several publications evaluating aspects of management of

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Table 1. Examples of end organ specific pain syndromes and abbreviated definitions.

Organ	Condition	Definition
Bladder	Bladder pain syndrome	'Chronic (>6 months) pelvic pain, pressure or discomfort perceived to be related to the urinary bladder accompanied by at least one other urinary symptom like persistent urge to void or frequency.' ⁹
Urethra	Urethral pain syndrome	'Chronic or recurrent episodic pain perceived in the urethra.' ¹
Prostate	Prostate pain syndrome	'The occurrence of persistent or recurrent episodic pain (which is convincingly reproduced by prostate palpation).'1
Scrotum	Scrotal pain syndrome	'The occurrence of persistent or recurrent episodic pain localised within the organs of the scrotum.' ¹

CPPS and organ pain syndromes, they do not provide a comprehensive formalised guideline. Several groups within Europe and internationally have published excellent reviews and update articles on both CPPS³ and individual organ-specific pain syndromes^{4,5} which influence clinical practice, but they are not in themselves published as guidelines. We compare the relevant UK guidelines with those from Europe, focusing on prostate pain syndrome (PPS), bladder pain syndrome (BPS) and also gynaecological causes of CPP which are common co-existing problems encountered in urological practice. There is a paucity of formal UK guidelines regarding scrotal, testicular, epididymal, penile, urethral or post-vasectomy scrotal pain syndromes, and we would therefore refer to the EAU guidelines,^{1,2} as we have no UK equivalent to compare with. While musculoskeletal and gastrointestinal pain syndromes are also clinically relevant to the patients we evaluate in urology, we have omitted them from this review.

Assessment and diagnosis of CPPS

All guidelines emphasise the importance of taking a clear history of organ-specific symptoms, with the aim of identifying the predominant or important features of the condition (establish the phenotype). Physical examination of the abdomen, genitalia, pelvic floor and digital rectal examination is mandatory,^{1,6} including assessment for pain trigger points.¹ Basic investigations should be undertaken to rule out 'well-defined pathologies' that might otherwise account for the symptoms. Early evaluation of emotional, behavioural and sexual aspects of CPPS are important,¹ with recognition of the impact on the patient and how to adapt subsequent management strategies. Disease-specific symptom scores should be used, such as the international prostate symptom score (IPSS) in PPS. A validated questionnaire assessing psychological aspects such as the patient health questionnaire-2 or 9 can be helpful. Once a diagnosis has been made, the UPOINT system for the clinical phenotyping of CPP can also be used to help guide management according to the most likely causative factors (urinary, psychological, organ

specific, infection, neurological/systemic, or tenderness of skeletal muscles).⁷ A biopsychosocial model of assessment, including the effect of CPPS on sexual function and dysfunction is recommended,¹ along with discussing the patient's own ideas as to the cause of the symptoms.^{1,8} Early screening for sexual abuse is a feature of the guidelines, although the EAU recommends doing this without suggesting a causal relationship with pain.^{1,6}

Prostate pain syndrome

Also referred to as chronic (non-bacterial) prostatitis, it is included in the consensus guideline published by Prostate Cancer UK (PCUK) in 2014,⁶ where it is evaluated alongside chronic bacterial prostatitis, which makes it more difficult to compare like-for-like with the EAU guidelines. Prostatitis is described as in the early stage if persisting or recurrent symptoms are present for less than 6 months in the antibiotic naive patient, and late stage if the symptom duration is longer and the patient has failed initial lines of pharmacotherapy.⁶ The EAU guidelines refer to PPS as 'pain perceived to be from the prostate, reproduced by palpating the prostate, being present for a minimum of three out of six months'.¹

A summary of the assessment of PPS is described in Table 2. Both UK and European guidelines highlight the need to exclude other conditions such as prostate cancer and infections, and target investigations depending on the individual's phenotypic presentation. Both also highlight the need for a holistic assessment, involving emotional, psychological and sexual aspects as well as pain and voiding dysfunction,^{1,6} although the EAU approach is more flexible and clinician led regarding further investigation of PPS, whereas the UK guidelines are more prescriptive as they also integrate investigations intended to exclude bacterial prostatitis.

Bladder pain syndrome

There is no single comprehensive UK guideline on the investigation and management of BPS, previously termed

Table 2. Abbreviated summary of UK and European assessment of prostate pain syndrome.

PCUK ⁶	EAU ¹
Physical examination including abdominal, musculoskeletal, digital rectal, pelvic floor and external genitalia	
Validated symptom scoring systems including NIH chronic prostatitis symptom index, IPSS, international index of erectile function (IIEF-5) and UPOINT	
Core investigations <ul style="list-style-type: none"> • Urine dipstick and culture • Prostate-specific antigen and sexually transmitted infection screening if indicated 	Investigations to be adapted to the individual, no specific investigations required for diagnosis
Optional investigations <ul style="list-style-type: none"> • Two/four glass (Stamey) test • Cystoscopy • Uroflometry • Pelvic MRI (if abscess suspected) • Urethral swab Semen culture not routinely recommended due to poor sensitivity and risk of urethral contamination	Two/four glass (Stamey) test may be used but of little value as positive results in those with PPS similar to those of asymptomatic population Urodynamics if significant LUTS

When guidelines differ, information is placed in separate columns.

PCUK: Prostate Cancer UK; EAU: European Association of Urology; NIH: National Institutes of Health; IPSS: international prostate symptom score; MRI: magnetic resonance imaging; PPS: pelvic pain syndrome; LUTS: lower urinary tract symptoms.

interstitial cystitis (IC). Well-researched guidelines have been produced by the EAU,^{1,2} International Society of the Study of BPS (ESSIC)⁹ and the American Urological Association (AUA) who refer to the condition as IC/BPS,^{10,11} and these form the basis of most UK clinical practice. ESSIC guidance, which the EAU has adopted, has classified BPS into subtypes (phenotypes) based on cystoscopic and biopsy findings, although in the UK we reserve bladder biopsy to exclude pathology rather than to classify the disorder. ESSIC define the condition as ‘chronic (>6 months) pelvic pain, pressure or discomfort perceived to be related to the urinary bladder accompanied by at least one other urinary symptom like persistent urge to void or frequency’,⁹ after excluding an underlying pathology. In comparison, the AUA definition requires symptoms for a minimum of 6 weeks only.¹⁰ The reason given for the shorter duration of symptoms to make the diagnosis is so that treatment can commence earlier, although there is no evidence to support a particular time-frame other than to allow adequate time to exclude an underlying pathology. The investigation recommendations are summarised in Table 3.

Gynaecological causes of CPP

When assessing women with CPPS, a robust history and examination is essential actively to seek out any underlying gynaecological cause (vulvar, vestibular, clitoral or endometriosis-related pain syndromes, CPPS with cyclical exacerbations or dysmenorrhoea). Pain which varies during the menstrual cycle can indicate a hormonally driven condition such as endometriosis or adenomyosis. The Royal

College of Obstetricians and Gynaecologists (RCOG) published UK guidelines in 2012.⁸ The EAU provides a urological perspective which is similar to the RCOG guidelines (Table 4). Evaluation of psychological and social aspects is emphasised, with specific questioning about a history of sexual trauma mandatory in the EAU guidelines.¹ Full gynaecological assessment is recommended once a gynaecological component for the pelvic pain is suspected, including diagnostic laparoscopy and further assessment for gynaecological malignancy, and therefore urologists are advised to refer on to appropriate colleagues. Of note, no specific imaging is recommended, although ultrasound scan is helpful to diagnose adenomyosis.

Treatment of CPP conditions

There is a clear focus and a common theme within all guidelines on employing a multidisciplinary management strategy. An understanding of pain mechanisms and training in pain management, viewing pain as a disease process with physical, psychological, behavioural and psychosocial consequences, is essential for those managing CPPS.¹ Addressing pain and giving adequate analgesia early, even if further investigations and treatment are planned, is recommended by the RCOG,⁸ with the EAU recommending opioids are only employed when all other reasonable treatment options have failed. The decision to utilise opioids should be taken by an appropriately trained specialist in consultation with another physician.¹ In the UK, pain management is usually performed in collaboration with the general practitioner and/or with the chronic pain clinic. Multimodal management with both pharmaceutical and

Table 3. Abbreviated summary of American and European guidelines on the assessment of BPS.

AUA ¹⁰	EAU ¹
Full history including pain evaluation Validated symptom scoring such as the interstitial cystitis symptom index (O'Leary-Sant)	
Urine dipstick and culture (EAU recommend tuberculosis screen if sterile pyuria) Cytology in high risk patients, e.g. smokers	
Basic assessment as above as well as <ul style="list-style-type: none"> • Frequency volume chart • Post-void residual volume • Physical examination 	All patients should have a rigid cystoscopy under general anaesthesia <ul style="list-style-type: none"> • Classify patients by subtype and phenotype
In complicated cases (those with incontinence/overactive bladder symptoms, gastrointestinal or gynaecological signs/symptoms, haematuria or sterile pyuria) consider <ul style="list-style-type: none"> • Imaging • Cystoscopy • Urodynamics • Laparoscopy • Cytology 	Assess negative cognitive, behavioural, sexual and emotional consequences

When guidelines differ, information is placed in separate columns.

BPS: bladder pain syndrome; AUA: American Urological Association; EAU: European Association of Urology.

Table 4. Abbreviated summary of UK and European guidelines on gynaecological pain.

RCOG ⁸	EAU ¹
Full gynaecological history including relationship to menstrual cycle, and associated bladder and bowel symptoms required	
Screen for infection if there is any suspicion of pelvic inflammatory disease Offer sexually active women sexually transmitted infection screening	Vaginal and endocervical swabs recommended
No specific imaging is mandatory <ul style="list-style-type: none"> • Transvaginal ultrasound appropriate investigation for adnexal masses, and useful in the diagnosis of adenomyosis • MRI is useful in the diagnosis of adenomyosis but its role in endometriosis is uncertain 	No specific imaging is mandatory <ul style="list-style-type: none"> • Ultrasound can identify adenomyosis
Psychological and social issues should be evaluated	Sexual history including history of sexual trauma is mandatory
Women reporting persistent or frequent (more than 12 times per month) urinary urgency, frequency, bloating, pelvic pain or early satiety should have a serum CA125	Up-to-date cervical screening mandatory
Diagnostic laparoscopy is an option, and previously seen as gold standard; however, does carry risks <ul style="list-style-type: none"> • May be better utilised as a second line investigation if therapeutic interventions fail 	Full gynaecological evaluation including diagnostic laparoscopy to rule out treatable causes is recommended

When guidelines differ, information is placed in separate columns.

RCOG: Royal College of Obstetricians and Gynaecologists; EAU: European Association of Urology; MRI: magnetic resonance imaging.

non-pharmaceutical options are encouraged,^{1,6} with a focus on taking an individualised approach.¹ The EAU emphasises the importance of offering behavioural

strategies to patients with sexual dysfunction and their partners.¹ Pelvic floor muscle treatment is recommended as first line treatment for CPPS, with biofeedback if

Table 5. Abbreviated summary of UK and European management for PPS.

PCUK ⁶	EAU ¹
Four to 6 weeks antibiotic therapy if antibiotic naive <ul style="list-style-type: none"> • Quinolones or trimethoprim first line • Repeated courses only if partial response or proven infection 	If symptom duration less than one year, a minimum of 6 weeks antibiotic therapy recommended (grade A recommendation) <ul style="list-style-type: none"> • Quinolones or tetracycline first line
Trial alpha blocker for 6 weeks if lower urinary tract symptoms	If symptom duration less than one year, trial alpha blocker
Start with simple analgesia including non-steroidal anti-inflammatory drugs if pain	Non-steroidal anti-inflammatory drugs can be used, but need to consider long-term side effects
Pentosan polysulphate unlicensed in UK	Trial high dose pentosan polysulphate
Consider neuropathic pain in refractory cases and manage according to established guidelines	
Assess and manage psychological distress if present	
5 alpha reductase inhibitors generally not recommended, although they may have a role in a group of older men with raised PSA	
Phytotherapy may have some beneficial effect, although the evidence is limited	
Multimodal therapy is likely to be required	
There is currently insufficient evidence to recommend invasive or surgical treatment options, such as prostatic massage, high intensity focused ultrasound, or transurethral resection, outside of a trial setting	

When guidelines differ, information is placed in separate columns.

PPS: pelvic pain syndrome; PCUK: Prostate Cancer UK; EAU: European Association of Urology; PSA: prostate-specific antigen.

overactive pelvic floor muscles are identified,¹ requiring onward referral to appropriate specialists.

Prostate pain syndrome

Phenotype driven therapy, in which the individual's bothersome symptoms are used to guide management, is important in this disorder. Multidisciplinary team involvement is again recommended in these patients.^{1,2,6} Overall, the UK and European approaches are similar (Table 5), with the exceptions that drugs such as pentosan polysulphate sodium are not on licence in the UK, and are difficult to acquire in the NHS.

Bladder pain syndrome

The EAU recommends a subtype and phenotype-orientated therapy approach in BPS, with multimodal therapy including both pharmaceutical and non-pharmaceutical treatments.^{1,9} Due to a lack of guidelines for UK practice, the two most comprehensive management algorithms are derived from the EAU¹ and the AUA¹⁰ guidelines, which are very similar (Table 6). Although recommended by the EAU, in the UK oral and intravesical pentosan polysulphate sodium remain off licence and are generally not freely available for patients. Intravesical dimethyl sulfoxide (DMSO) is also in the EAU guidelines for use in BPS,

and while NICE have reviewed the evidence and published their findings,¹² it is also unlicensed for use in the UK. While the EAU guidelines recommend alkalised lignocaine or heparin as separate bladder instillations, some UK centres offer a combination of bicarbonate, lignocaine and heparin (Parsons' cocktail) for intravesical instillation, which has been proved to be effective in providing relief in BPS.¹³

Gynaecological causes of CPP

In the UK, we would anticipate that management will be led by gynaecology. In women with cyclical pelvic pain suggestive of a gynaecological cause of CPPS, the RCOG guidelines advise a trial of hormone therapy for 3–6 months prior to proceeding to diagnostic laparoscopy. If laparoscopy is undertaken, there is some evidence to support the division of dense vascular adhesions as this can help with pain relief.⁸ The EAU recommends hormone therapy or surgery for well-defined disease states, such as endometriosis.¹

Discussion

There is a lack of comprehensive UK guidelines to cover the wide and diverse conditions seen in CPPS. NICE guidelines tend to be limited to specific areas of

Table 6. Abbreviated summary of American and European management of BPS.

AUA ^{10,11}	EAU ¹
Pain management strategies feature at every stage	Conservative management including dietary modification can help symptoms
First line management: <ul style="list-style-type: none"> • Behavioural modification • Patient education • Relaxation techniques 	Oral treatment options of value include antihistamines, amitriptyline and pentosan polysulphate <ul style="list-style-type: none"> • Oral treatment options of limited value include cimetidine, prostaglandins and L-arginine
Second line management: <ul style="list-style-type: none"> • Physiotherapy • Oral agents: amitriptyline, cimetidine, hydroxyzine, pentosan polysulphate • Intravesical agents: DMSO, heparin, lidocaine 	Intravesical treatment options include <ul style="list-style-type: none"> • Heparin with oral pentosan polysulphate • Pentosan polysulphate with or without oral pentosan polysulphate • Lidocaine with bicarbonate • Hyaluronic acid • Chondroitin sulphate Intravesical DMSO is not recommended
Third line management: <ul style="list-style-type: none"> • Cystoscopy and short duration hydrodistension • Transurethral resection of Hunner's ulcers 	If intravesical treatment has failed, consider submucosal botulinum toxin A with hydrodistension
Fourth line management: <ul style="list-style-type: none"> • Intradetrusor botulinum toxin A Neuromodulation	Offer neuromodulation prior to invasive options
Fifth line management: <ul style="list-style-type: none"> • Cyclosporine A 	Offer transurethral resection/coagulation/laser of Hunner's ulcers in BPS subtype 3 C only
Sixth line management: <ul style="list-style-type: none"> • Surgical management including diversion and substitution cystoplasty 	Surgery (diversion or cystectomy) should be the last resort, and performed by BPS knowledgeable surgeons only
Systemic steroids, intravesical BCG and high pressure long duration hydrodistension are not recommended	

When guidelines differ, information is placed in separate columns.

BPS: bladder pain syndrome; AUA: American Urological Association; EAU: European Association of Urology; DMSO: dimethyl sulfoxide; BCG: bacillus Calmette–Guérin.

diagnosis and treatment, such as specific drug therapies rather than the condition as a whole. The likely reasons for this are multifactorial; gaps in our understanding of the overall and individual conditions, condition subtypes considered as separate entities, different groups allocating similar treatments at different evidence level or grade, and a paucity of robust reliable evidence to underpin the guidelines.

The UK tends to follow European practice on the whole, differing mainly in the availability of some drugs and limited availability or a delay in accessing services such as psychosexual support. There does not appear to be a strong case to produce our own UK recommendations while the EAU produces a comprehensive guideline that is already relevant and useful to UK practice, and evolves on an annual basis to incorporate new research and understanding of this complex condition.

Conflicting interests

The authors declare that there is no conflict of interest.

Funding

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Ethical approval

Not applicable.

Informed consent

Not applicable.

Guarantor

SC.

Contributorship

Both SC and SB researched the literature, wrote, reviewed and edited the manuscript, and approved the final version.

Acknowledgements

None.

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