Canadian Urological Association Best Practice Report on Chronic Scrotal Pain

Keith A. Jarvi, MD, FRCSC; Christopher Wu, MD, FRCSC;
J. Curtis Nickel, MD, FRCSC; Trustin Domes, MD, Med, FRCSC;
John Grantmyre, MD, FRCSC; Armand Zini, MD, FRCSC

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Background

- Chronic scrotal pain (CSP) is poorly understood
- Current estimates of the population frequency of CSP range from 0.4–4.75%
- Patients may have seen a mean of 4.5 urologists for the condition and undergo an average of 7.2 diagnostic investigations
- CSP significantly impacts quality of life, with >50% of patients reporting limitations to activity and up to 40% of patients endorsing depressive symptoms
- There is currently a lack of published guidelines for the evaluation and management of men with CSP

This guideline is designed for:

- Family doctors
- Urologists
- Chronic pain specialists

Methods

- Systematic review of the literature was performed using PubMed, EMBASE, MEDLINE, and Cochrane library databases
- Consensus statements from the European Association of Urology, National Institute for Health and Care Excellence, Canadian Pain Society, and the American Academy of Neurology were incorporated
- Articles were reviewed using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach

Definition

- Chronic scrotal pain:
  - Intermittent or constant, unilateral or bilateral pain localized to the scrotal structures, three months or longer in duration that significantly interferes with daily activities of the patient and prompts him to seek medical attention

Etiologies of chronic scrotal pain

Cause of CSP	Percentage of patients
Vasectomy	20.61%
Trauma	12.21%
Infection	11.45%
Hernia repair	4.58%
Epididymal cyst	1.52%
Other identified causes (hydrocelectomy, TURP, orchiectomy, donor nephrectomy)	6.10%
Unknown	43.51%

Etiologies of chronic scrotal pain

- Pain can be nociceptive, neuropathic, or both
  - Acute pain usually nociceptive and may involve noxious stimuli, such as tissue injury or inflammation
  - Chronic pain may arise from acute pain, involving processes such as ongoing inflammation, infection, nerve entrapment, or central sensitization
  - Referred pain also must be considered
    - Reported causes included mid-ureteral stones, radiculitis from the thoracic/lumbar spine, nerve entrapment post-hernia repair, and tendonitis of the insertion of the inguinal ligament or adductor tendons

Natural history of chronic scrotal pain

- The etiology of CSP can vary significantly
- The natural history of CSP is poorly studied
  - Many of the patients presenting for CSP evaluation will have already seen many other healthcare professionals and have tried several lines of empiric therapies
  - Patients with successful pain resolution are not easily captured by existing studies

Diagnostic evaluation

- History (mandatory, Grade 3C)
- Physical examination (mandatory, Grade 4C)
- Infection screen (optional, select patients, Grade 3C)
- Questionnaire (optional, Grade 3C)
- Scrotal ultrasound (optional, select patients, Grade 3C)
- Test cord block (optional, Grade 3C)
- Psychological evaluation (optional, select patients, Grade 4C)
- Testicular function screening (optional, select patients, Grade 4C)

Treatment

- Conservative management (Grade 4C)
  - Physiotherapy (Grade 4C)
  - Acupuncture (Grade 4D)
  - Psychological counselling and therapies (Grade 4C)
- Medical management
  - NSAIDS (four weeks, Grade 4C)
  - Neuropathic medications (four weeks, Grade 3C)
  - Nerve blockade (Grade 3C–4D)

Treatment cont'd

- Surgical management
  - Microsurgical vasovasostomy for post-vasectomy pain syndrome (PVPS) (Grade 3C)
  - Epididymectomy for PVPS and symptomatic epididymal cysts (Grade 3C)
  - Varicocele for symptomatic varicoceles (Grade 3C)
  - Microsurgical denervation of the spermatic cord (Grade 3C)
  - Inguinal orchiectomy (Grade 3C)

Treatment summary

Medication class	Dosage	Reported efficacy	Common side effects
NSAIDs	Ibuprofen 400–-600 mg po q6h Naproxen 500 mg po BID	Unknown	Dyspepsia, gastro-duodenal ulcers, acute and chronic renal failure (1–5%)
Antibiotics	Levofloxacin 500 mg po daily x 10 days If risk of sexually transmitted infections: Ceftriaxone 250 mg IM + doxycycline 100 mg po BID x 10 days	26–100%	Levofloxacin: Nausea (4–8%), diarrhea (2%), headache (1–2%), dizziness, elevated transaminases (2–3%) Ceftriaxone: Gastrointestinal (3.5%), hypersensitivity(3%)[5] Doxycycline: Diarrhea, abdominal pain, fatigue
Gabapentinoids	Gabapentin 300 mg po daily, uptitrate by 300 mg/day up to maximum of 1800 mg/day	61.5–75% of patients with ≥50% improvement in symptoms	Sedation, dizziness, nausea, gastrointestinal upset
Tricyclic antidepressants	Nortriptyline 10 mg po TID, uptitrate by 30 mg daily to a maximum of 150 mg/day	67% of patients with ≥50% improvement in symptoms	Sedation, dry mouth, dizziness, insomnia

Treatment summary

Intervention	Success rate
Onabotulinum toxin A cord blockade	≥50% with partial or complete resolution of pain at 3 months followup
Pulsed radiofrequency denervation	56–100% partial or complete resolution of pain at 3–6 months followup
Microsurgical vasovasostomy for PVPS	50–100% complete resolution of pain
Epididymectomy for PVPS and symptomatic epididymal cysts	10–90% with partial or complete resolution of pain
Varicocele repair for symptomatic varicoceles	80–100% with partial or complete resolution of pain
Microsurgical denervation of the spermatic cord (MDSC)	71–96% with partial or complete resolution of pain
Inguinal orchiectomy	20–75% with partial or complete resolution of pain

Conclusions

- CSP is common, complex and oftentimes poorly understood, with significant impact on quality of life
- The etiology of pain is oftentimes unknown
- A thorough diagnostic evaluation guided by history and physical may help identify additional adjunct investigations that may clarify causes of pain
- Multimodal approaches to treatment include lifestyle modification, physical therapy, and psychotherapy
- Non-narcotic pharmacological options have been studied and show promise, especially in those with neuropathic symptoms
- A number of promising interventions are also available to urologists in the management of CSP