

Therapeutic approaches for UCPPS management: research advances, experimental targets, and future directions

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Introduction and Background

- Urologic Chronic Pelvic Pain Syndrome (UCPPS)** is a painful chronic condition with persistent pelvic pain often originating from the pelvis that can lead to detrimental lifestyle changes in the affected patients. The syndrome affects both, females and males, with an **estimated prevalence from 5.7 to 26.6% across the world**.
- In this narrative review, we summarized the latest translational and clinical research advances in the UCPPS field, followed by the currently used approaches to accurate diagnosis, treatment options, and potential improvements for treating UCPPS patients.
- Problem:** UCPPS is a complex chronic condition which could be misdiagnosed and undertreated due to the broad range of symptoms and significant symptom overlap with other chronic illnesses.
- Hypothesis:** The etiology of UCPPS is multifactorial, with both biological and psychosocial components; the treatment of UCPPS is ideal when a multimodal and holistic approach is implemented for patients.

Methods

- A narrative review of existing literature surrounding chronic pelvic pain and associated co-morbid pain conditions was conducted.
- The National Library of Medicine was searched for original clinical and translational research data within the past 10-15 years followed by the review of the published findings. The data was corroborated with findings from the Multidisciplinary Approach to Pelvic Pain Network, and additional research studies.

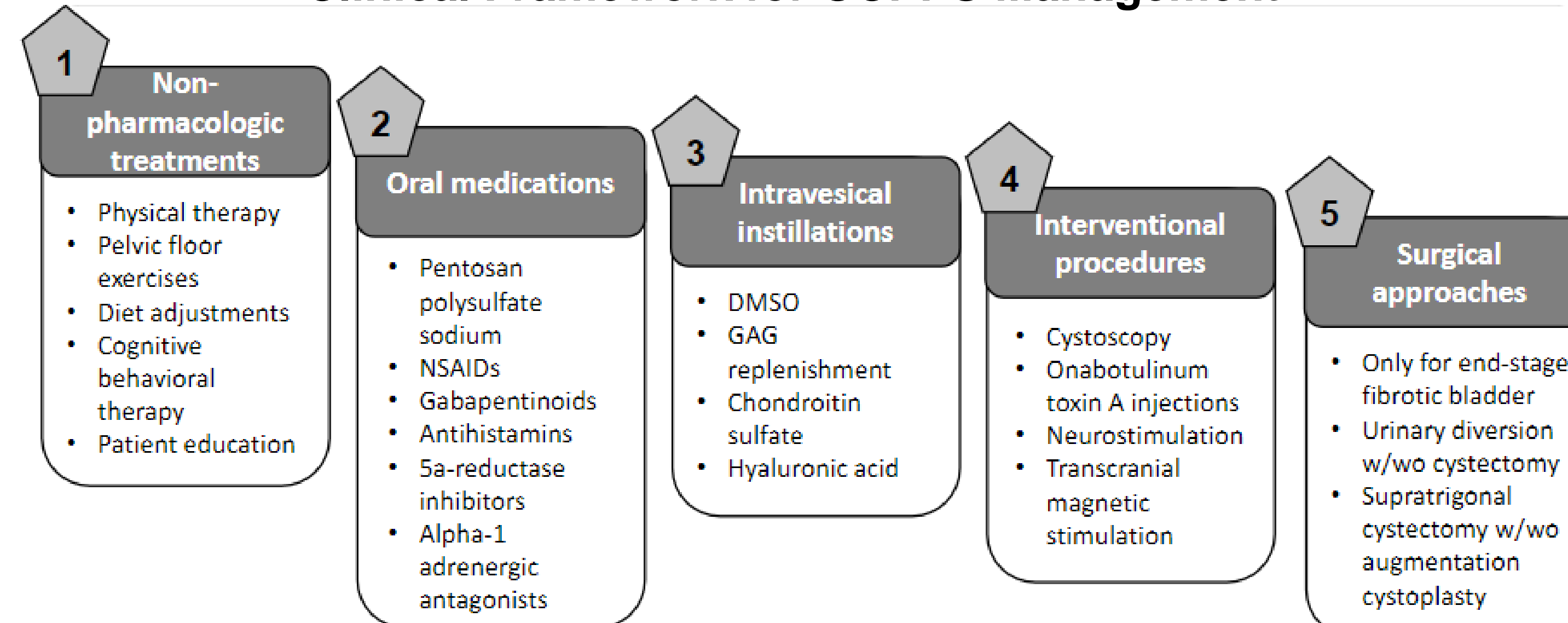
Objectives

- Understanding the pathophysiology and underlying challenges when diagnosing UCPPS.
- Reviewing existing approaches for the treatment of UCPPS as well as their efficacy.
- Investigating new and novel treatment approaches for UCPPS.

Results

- The pathophysiology of UCPPS is complex and may involve inflammation, neural hypersensitivity, urothelial dysfunction, and biopsychosocial factors such as trauma and depression. As a result, these patients often experience a low quality of life (QoL).
- Existing approaches for the treatment of UCPPS starts with the use of NSAIDs, which often produces short-term benefits (approximately a few weeks). 5a-reductase inhibitors such as finasteride may help male patients by reducing the size of prostatic volume. Additionally, alpha-1 adrenergic antagonists such as tamsulosin have been used for male patients with UCPPS secondary to BPH.
- When combined with non-pharmaceutical interventions such as pelvic floor exercises and cognitive behavioral therapy, patients using pharmaceutical treatments may have a better QoL.

Clinical Framework for UCPPS Management*



* Modified from 2022 AUA Education and Research, Inc. Clinical Management Principles

Discussion, Limitations, Conclusion

- Diagnosis can be streamlined by ruling out emergent conditions and acquiring a comprehensive medical history. Current guidelines from the American Urological Association (AUA) recommend to **record baseline voiding dysfunction and pain levels** in UCPPS patients to provide a **longitudinal assessment** of the treatment outcomes.
- Experimental treatments:** humanized monoclonal antibodies against NGF (Tanezumab), stem cell delivery into the bladder tissue, as well as amniotic bladder therapy have gained more attention in recent years. The improvement and development of translational animal models would help advance the understanding of the mechanisms of UCPPS. Limitations in our review include a lack of large-scale clinical trials for these new experimental treatments.
- Clinical and translational studies on UCPPS treatment approaches provide a rationale for **multimodal, patient-individualized therapeutic strategies** to achieve the most beneficial patient outcomes. Recent studies have shown that a positive feedback loop exists between LUTS, pelvic pain, mood, and QoL, suggesting that multimodal treatments may interrupt the downward spiral of symptom worsening.

Disclosures and References

Authors have no financial disclosures or conflicts of interest.

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A complete list of 100+ references will be provided upon request.