

# Drug Review



## Flavoxate hydrochloride - the bladder specific antispasmodic & urinary analgesic for rapid relief from dysuria in when used with appropriate antibiotic

### Dysuria: a major symptom in UTIs

- UTIs are one of the world's most common infectious diseases, affecting 150 million people each year.<sup>1</sup>  
In general, about 50 to 70% of women will have UTI sometime during their lifetime.<sup>2</sup>
- Dysuria is used to describe painful urination, often described by the patient as burning, stinging, or itching.
- This symptom of burning micturition is particularly important as relating to the clinical presentation in UTIs, and may be present in as many as 93.3% of patients.<sup>3</sup>

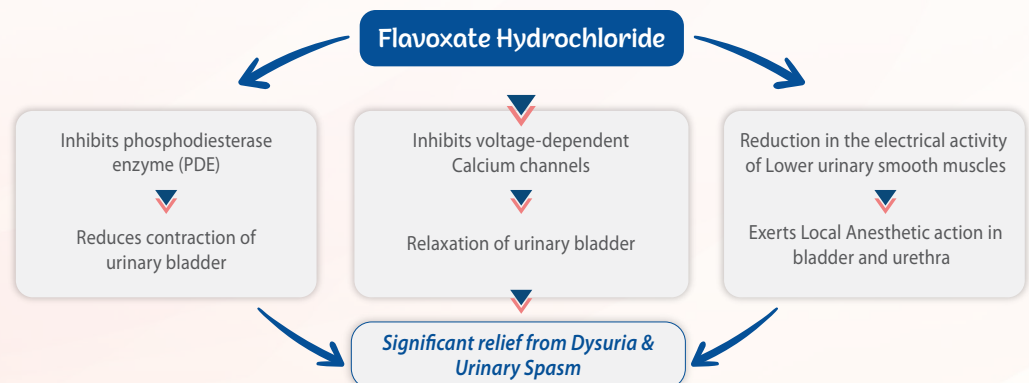
### Unmet need in treating dysuria

- Limited use of bladder-selective agents with antispasmodic action
- No reduction of local electrical activity to provide local anesthetic effect.
- Lack of symptom-targeted therapy (burning, urgency, suprapubic pain)
- Inappropriate antibiotic use in non-infectious dysuria (e.g., postmenopausal atrophy)

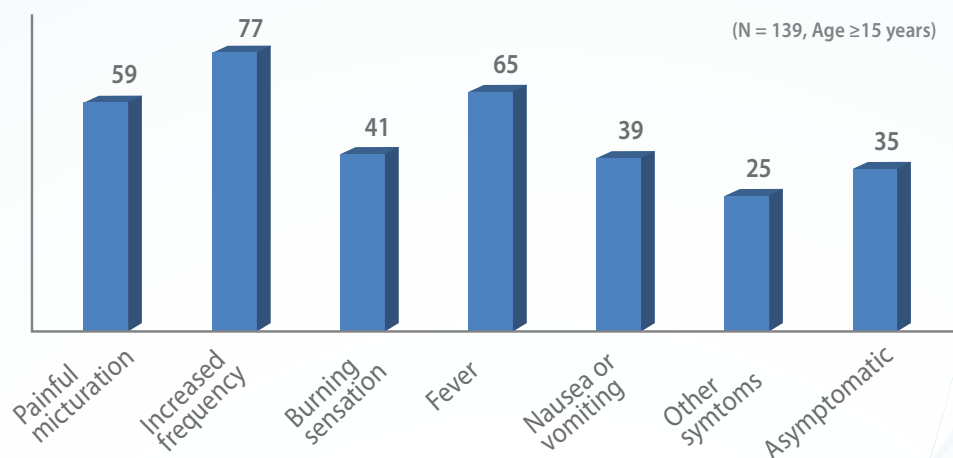
### Flavoxate – a bladder specific anti-spasmodic & urinary analgesic<sup>5</sup>

- Flavoxate is a bladder-specific antispasmodic agent which selectively inhibits phosphodiesterase & reduce the contraction of detrusor muscle.
- Flavoxate also suppresses carbachol and Ca<sup>2+</sup> induced contractions of isolated detrusor strips & acts as a direct spasmolytic.
- Further optimization with Inhibition of voltage-dependent Ca channels, promotes smooth muscle relaxation in the bladder and urethra.
- Acts locally to reduce electrical activity, provide anesthetic effects similar to that exerted by lidocaine, without affecting neurogenic transmission.
- It significantly reduce frequency & urgency, urinary incontinence. Also reduce bladder wall tension, relieving bladder pressure and improving urinary storage.
- Due to direct smooth muscle relaxation flavoxate presents only a very modest, virtually lacking anticholinergic activity.

### Unique triple action in the bladder & Urethra<sup>6</sup>



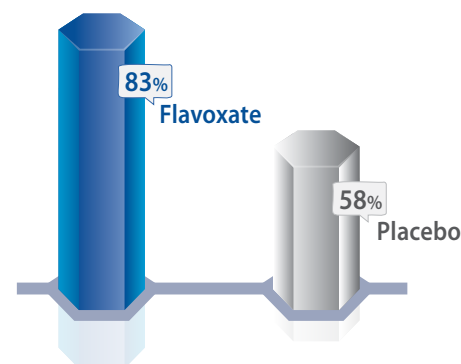
## Clinical manifestations among UTI patients<sup>4</sup>



\*A recent prospective, observational study on 139 females aged ≥15 years

**Flavoxate (Uroza) delivers significant clinical success in improving dysuria, burning, urgency, frequency and suprapubic pain in cystitis<sup>2</sup>**

Success Rate



## Flavoxate vs Tiemonium Methylsulfate

Feature	Flavoxate (Uroza)	Tiemonium Methylsulfate
<b>Mechanism of Action</b>	Bladder-specific antispasmodic; inhibits phosphodiesterase & also voltage-dependent Ca channels	Anticholinergic agent
<b>Local anesthetic effects.</b>	Reduce local electrical activity, providing anesthetic effects.	No reduction of local electrical activity
<b>Selectivity and Specificity</b>	Highly specific to bladder; works locally, reducing bladder wall tension without affecting neurogenic transmission	Non-selective, works on smooth muscle throughout the gastrointestinal & urinary systems.
<b>Target Site</b>	Bladder smooth muscle	Visceral smooth muscle
<b>Efficacy</b>	Rapid relief (within 20 minutes) of dysuria, frequency, urgency, and urinary incontinence.	Slower onset and less effective in reducing urgency and frequency
<b>Relief of Dysuria</b>	Clinically proven, Strong (RCTs & meta-analysis)	No clinical trials on dysuria
<b>Indications</b>	Dysuria, urgency, frequency, bladder spasm	GI colic, bladder spasms, mild cystitis

Ref: 1. Stamm, W. E. & Norrby, S. R. Urinary tract infections: disease panorama and challenges. J. Infect. Dis. 183:51–54 (2001); 2. Foxman, B. & Frerichs, R. R. Epidemiology of urinary tract infection: I. Diaphragm use and sexual intercourse; 3. <https://wbhf.walterbushnell.com/publications/bush-beats/item/12-symptomatic-management-of-patients-with-uti->; 4. Saber, Sadia & Yasmin, Naz & Alam, Mohammed & Hossain, Mohammad & Alam, Rafa. (2021). Study on Urinary Tract Infection Among Females of Reproductive Age Group in Tertiary Care Teaching Hospital, Dhaka, Bangladesh. European Journal of Medical and Health Sciences. 3. 85-89. 10.24018/ejmed.2021.3.1.680; 5. Arcaniolo D, Conquy S, Tarcan T. Flavoxate: present and future. Eur Rev Med Pharmacol Sci. 2015;19(5):719-31. PMID: 25807422; 6. European Review for Medical and Pharmacological Sciences. 2015; 19: 719-731.; 7. Acta Urol Jap 1975; 20: 885

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