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## **Efficacy of homoeopathic medicine in treatment of urinary tract infection in Pediatric age group: A Literature Review**

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**Introduction:** UTI is the third most common bacterial infection in children in developing countries after those of the gastrointestinal and respiratory tract. <sup>(7)</sup> Children who have special permission to leave the classroom due to urinary issues are often singled out as being “different” or are bullied and teased. Children with urinary incontinence often suffer from low self-esteem and psychological distress. UTIs are important because they cause acute morbidity and may result in long-term medical problems, including hypertension and reduced renal function. <sup>(13)</sup>

**Epidemiology:** The incidence of infection of the urinary varies based on the age, sex and gender of children. An estimate shows an annual affection of 2.4 – 2.9% children in the country. <sup>(4)</sup> UTI is common medical problem in children, affecting 3-10% girls and 1-3% boys. <sup>(3)</sup> A study was conducted in south India in 2019 which shows the proportion of pediatric UTI cases represents 9.93% in the suspected cases and among them 9.46% were culture positive. Field states that about 10 percent of low-birth weight infants are affected by UTI. <sup>(6)</sup>

**Aetiology:** The entry of uropathogens into the urinary tract is often from peri-urethral colonisation in females or from preputial colonisation in uncircumcised males. <sup>(5)</sup> UTIs are caused primarily by colonic bacteria. Escherichia coli causes 54-67% of all UTIs, followed by Klebsiella spp., proteus spp., Enterococcus and pseudomonas. <sup>(10)</sup> candida infection occurs in immunocompromised children or after prolonged antimicrobial therapy. <sup>(3)</sup>

**Pathophysiology:** Nearly all UTIs are ascending infections. The entry of organism into the urinary tract occurs by fecal-perineal-urethral route as it ascends to bladder after colonising in the perineum via the urethra. In female children, the ascent of organisms into the bladder is easier than in male children because the urethra is shorter in female children. <sup>(8)</sup>

**Clinical features** <sup>(1,9)</sup>

They depend upon the age and the severity of UTI.

Age group		Symptoms and signs		
		Most common $\longrightarrow$ Least common		
Infants younger than 3 months		Fever Vomiting Lethargy Irritability	Poor feeding Failure to thrive	Abdominal pain Jaundice Haematuria Offensive urine
Infants and children, 3 months or older	Preverbal	Fever	Abdominal pain Loin tenderness Vomiting Poor feeding	Lethargy Irritability Haematuria Offensive urine Failure to thrive
	Verbal	Frequency Dysuria Crying on urination	Dysfunctional voiding Changes to continence Abdominal pain Loin tenderness	Fever Malaise Vomiting Haematuria Offensive urine Cloudy urine

**Diagnosis:**

Most clinicians obtain urine by transurethral catheterization in infants and young children, reserving suprapubic aspiration of the bladder for boys with moderate to severe phimosis. Both procedures require technical expertise, but catheterization is less invasive, slightly safer, and has sensitivity of 95% and specificity of 99% compared with suprapubic aspiration. Bagged specimens are unreliable and should not be used for diagnosis. <sup>(10)</sup>

**Other investigation:** <sup>(11)</sup>: CBC, USG whole abdomen, Micturating Cystourethrogram (MCU), performed as and when needed.

**Homeopathic management:** Homoeopathy is the popular system of medicine based on the pivot law "Similia Similibus Curentur" that means similar suffering is treated by similar kind of therapeutic agents. Homoeopathic medicines are safe, effective, and is based upon the natural substances. With the use of simple substances in minimum doses, it can be safely used for children with minimum toxicological properties. <sup>(13)</sup>

**List of importance homoeopathic remedies and their indications in children:**  
(13,14)

**Cannabis sativa:** Urethra very sensitive to touch or pressure; cannot walk with legs close together, it hurts the urethra. Pain extending from orifice of urethra backward, burning-biting, posteriorly more sticking, while urinating. Tearing pains along urethra in a zigzag direction. Obstinate constipation, causing retention of the urine.

**Cantharis:** Constant urging to urinate, passing but a few drops at the time, which is mixed with blood. Intolerable urging, before, during and after urination; violent pains in bladder. Burning, cutting pains in urethra during micturition; violent tenesmus and strangury.

**Petroselinum:** Sudden urging to urinate. Child suddenly seized with desire to urinate; if cannot be gratified at once, jumps up and down with pain. Burning, tingling from perineum throughout whole urethra. Frequent voluptuous tickling in fossa navicularis. Discharge of a milky fluid from the urethra

**Verbascum thapsus:** Constant dribbling with burning urination.

**Sulphur:** Frequent micturition, especially at night. Enuresis, especially in scrofulous, untidy children. Burning in urethra during micturition, lasts long after. Mucus and pus in urine; parts sore over which it passes. Must hurry, sudden call to urinate. Great quantities of colourless urine.

**E. Coli:** Recurrent UTI where the obvious cause is infection and not only covering UTI caused by E. coli but other bacteria too.

**Bursa Pastoris:** Urine burning, passing frequently, of a strong Odor. Copious discharge of urinary sand, increased flow of urine, relief of dropsy. Brick dust

sediment. Chronic cystitis.

**Clematis:** Tingling in urethra lasting sometime after urinating. Frequent, scanty urination and burning at the orifice. Pain worse at night. Urine turbid, milky, dark, with flakes of mucus and frothy. Stitches in the urethra, stitches from the abdomen into the chest.

**Equisetum:** Incontinence in children, with the dream or nightmares when passing urine. Severe, dull pain and feeling of fullness of bladder, not relieved by urinating. Frequent urging with severe pain at the close of urination. Excessive burning in urethra while urinating. Urine cloudy.

**Sabal Serrulata:** Feeling as if bladder too full; starting the flow was painful as if forced through very narrow meatus. Constant desire to pass water at night. Cystitis with prostatic hypertrophy. A desire for milk.

**Conclusion:** Although non-specific symptoms of infantile UTI may be a challenge to treat, proper selection of remedy can lead to a rapid, gentle and permanent cure<sup>(2)</sup> homoeopathic medicines covering the symptomatology of urinary tract infection in children and can even treat according to cause. Further studies required to show the effectiveness of homoeopathic medicines in the same-  
(12)

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