

CLINICAL TRIAL OF CANDANASAVA, IN THE TREATMENT OF URINARY TRACT INFECTION

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Received: 12 July 1985

Accepted: 15 January 1990

ABSTRACT: *Candanasava gives significant relief to urinary tract infection. Like other Ayurvedic drugs Candanasava might be acting not merely as an urinary antiseptic but also as a host-modifying factor, thus rendering the host-urinary tract resistant to infection and making the bacterial infection pathogenetically less virulent.*

INTRODUCTION

The urinary tract infection is the commonest clinical condition encountered in urological practice. Chronic renal failure in majority of cases particularly in India results from improperly managed lower urinary tract infection. It causes pyelonephritis and ultimately ends into chronic renal failure due to its progressive trend. Freedman (1963) strongly said that bacterial infection can and does cause chronic pyelonephritis doubtlessly. That is why preventive nephrology is now gaining popularity: India is a poor and developing country. Therefore search for cheaper, freely available, safe and effective drugs to control urinary tract infection is worthwhile. Inadequate efficacy, causation of side effects and rapid development of resistant strains with the use of modern drugs limits their utilization in urinary tract infection. Considering the above problem, the present study was undertaken to explore the satisfactory and safer treatment of urinary tract infection with ayurvedic resources. Upadhyaya and Singh (1975) have screened a large number of herbal urinary antiseptics **in Vitro** for their antibacterial efficacy. They observed antibacterial effect in some of these drugs

viz. **Dhataki, Kuta, Haritaki, Goksuru, Usira** etc. We, in continuation, selected a popular ayurvedic compound drug **Candanasava** (a herbal Alcoholic formulation) to evaluate its efficacy in cases of urinary tract infection. The clinical study showed encouraging results.

MATERIALS AND METHOD

40 cases of urinary tract infection were selected for this study from University Hospital, B.H.U. The patients complaining of burning micturition, dysuria increased frequency of micturition, oliguria, microscopic haematuria, pyuria, albuminuria and similar other urinary symptoms with or without the growth of pathogen on urine culture were included in this series. Each case was subjected to detailed clinical examination and history taking. Each symptom was recorded and graded tentatively for their severity in a four grade rating scale (Table – 1). Routine examinations such as B.P., Pulse, respiration and temperature were also recorded regularly.

TABLE 1
Grade rating scale for measuring the severity of symptoms and urinary findings in cases of Urinary Tract Infection

Symptoms	Gradings
Burning/Dysuria/Dribbling	0 – No symptom
	1 – Symptom occasionally during micturition
	2 – Symptom mild but persist in every micturition
	3 – Symptom severe which persist in all phase of micturition
Increased frequently	0 – No symptom
	1 – 6-10 calls per 24 hours
	2 – 10-15 calls per 24 hours
	3 – More than 15 calls per 24 hours
Oliguria	0 – No symptom
	1 – Urine volume 750-1000 ml/24 hours
	2 – Urine volume 500-750 ml/24 hours
	3 – Urine volume below 500 ml/24 hours
R. B. Cs/Pus cells	0 – Absent in M/E
	1 – Occasionally in M/E
	2 – Fair in No. M/E
	3 – Fair in No. M/E and colour change of urine on gross (naked eye) exam.
Casts/Albumin	0 – Absent
	1 - +
	2 - ++
	3 - +++

Laboratory Investigations: Urine of each patient was investigated for routine and microscopic examination and culture and sensitivity test. Complete haemogram, renal function test in terms of blood urea and serum creatinine and plain X-ray abdomen were done in these patients. Intravenous pyelography was also performed whenever needed.

The drug and the dosage: Candanasava (Sukra-Mehadhikara, Bhai, Rat-8/35-39) prepared by Ayurvedic Pharmacy, B. H. U. according to Ayurvedic Formulary of India

was used in this study. It was used in the dose of 40 ml/day in two divided doses, after meals, mixed with equal amount of water for total duration of 6 weeks and the efficacy of treatment was assessed at an interval of 2 weeks, on the basis of following parameters.

1. Rating of symptoms
2. Rating of urinary findings
3. Microbiological findings
4. Physical wellbeing including physiological changes like Pulse, B. P., Respiration and Temperature.

RESULTS

In the present study 25 patients were male and 15 were female with higher incidence of age group between 21-30 years. Majority of patients belonged to lower middle class. Most of them were government employees, students, house wives and farmers. Regarding symptoms, burning micturition was predominant one which was present in over 90% of cases, rest of the features being seen in relatively lesser number of cases. During urinalysis 47.5% cases showed pus cells, 40% case mild albuminuria, 37.5% cases showed R. B. Cs., 15% cases showed casts. The pH of the urine was acidic in all cases.

maximum number of cases. Only few cases had alkaline pH. On urine culture only 27.5% cases showed growth of different pathogens. Blood urea and serum creatinine level were found within normal range.

The follow-ups studies indicated a significant symptomatic relief as is evident in terms of significant favourable shift of the grades of severity of selected symptoms of urinary tract infection (Table 2). A similar shift of grades was observed as regard to laboratory findings on urine examination which supports the clinical findings (Table 3). The repeated urine culture done in these cases did not become sterile

TABLE 2
Symptomatic improvement in terms of shifts of grades during treatment with candanasava in 40 cases of U.T.I.

Symptoms	INITIALS			FOLLOW-UP		
	Grades of Severity	No. of cases	% of cases	15 days % of cases	30 days % of cases	45 days % of cases
Burning	0	0	0.0	11.	36.7	53.3
	1	13	62.5	47.0	43.3	46.7
	2	10	25.0	35.5	20.0	0.0
	3	17	12.5	5.7	0.0	0.0
Dysuria	0	29	72.5	73.5	86.7	86.7
	1	10	25.0	26.5	10.0	13.3
	2	0	0.0	0.0	3.3	0.0
	3	1	2.5	0.0	0.0	0.0
Increased frequency	0	27	67.5	73.5	76.7	86.7
	1	4	10.0	17.6	20.0	13.3
	2	7	17.5	5.9	3.3	0.0
	3	2	5.0	3.0	0.0	0.0
Dribbling	0	31	77.5	82.4	90.0	93.3
	1	6	15.0	11.8	10.0	6.7
	2	2	5.0	5.8	0.0	0.0
	3	1	2.5	0.0	0.0	0.0
Oliguria	0	32	80.0	82.3	86.7	86.7
	1	5	12.5	11.4	10.0	13.3
	2	3	7.5	5.9	3.3	0.0
	3	0	0.0	0.0	0.0	0.0

TABLE 3
Improvement in urinary analysis with candanacasa in 40 cases of U.T.I.

Urinalysis	INITIALS			FOLLOW - UP		
	Grades of Severity	No. of cases	% of cases	15 days% of cases	30 days % of cases	45 days % of cases
Albumin	0	24	60.0	82.3	90.0	93.3
	1	13	32.5	14.3	10.0	6.7
	2	3	7.5	3.4	0.0	0.0
	3	0	0.0	0.0	0.0	0.0
Pus cells	0	21	52.5	70.6	80.0	93.3
	1	14	35.0	26.5	16.6	6.7
	2	5	12.5	2.9	3.4	0.0
	3	0	0.0	0.0	0.0	0.0
R.B.Cs	0	25	62.5	82.3	86.7	86.7
	1	11	27.5	14.7	10.0	13.3
	2	4	10.0	3.0	3.0	0.0
	3	0	0.0	0.0	0.0	0.0
Casts	0	34	85.0	88.8	93.3	93.3
	1	4	10.0	8.9	6.7	6.7
	2	2	5.0	3.3	0.0	0.0
	3	0	0.0	0.0	0.0	0.0

DISCUSSION

The present clinical and laboratory studies showed significant symptomatic improvement with marked changes in the urinary alterations with the use of **candanacasa** in cases of urinary tract infection. Through the urine cultures did not become negative within six weeks of therapy, pus cells, R. B. Cs, casts and albumen almost disappeared in all the cases. It is possible that the clinical relief reported by the patients and urinary alternations found out by the laboratory investigations, were more due to some other unknown mechanism.

One of them may be that the drug may produce soothing effect on local mucosa of the urinary tract which might be producing relief of symptoms like burning sensation, dysuria etc. Such an influence of the drug may be attributed to its ingredients specially

the **candana** (*Santalum album* Linn), **Mustaka** (*Cyperus rotundus*), **Gambhari** (*Gmelina arborca*), **Padmakastha** (*Prunus cerasoides*), **Patha** (*Cissampelos pareira*), **Patola** (*Trichosanthes dioica*), **Dhataki** (*Woodfordia fruticosa*) etc. These are potent drugs. In Ayurvedic literature **candana** has the property of **Mutramarga – Kotha – Parsaman** (antiseptic). **Mustaka** is **Kandughna** and **Mutrala** (Anti- puritic and diuretic), **Gambhari** is **Sotha-hara** (Anti-inflammatory). **Padmakastha** is **Vedana sthapana** (analgesic). **Patha** and **Patola** are also **Sotha-hara** and **Mutra Krochra-hara** (Anti-inflammatory) and **Dhataki** is **Mutra Viranjaniya** (altering the colour of urine). Secondly, various ingredients of drug might be, on the other hand, influencing the chemical composition of the urine in such a way that the symptoms like burning, dysuria etc, are reduced and

the local condition for growth of the pathogenic organism become less favourable leading in turn to the control of infection. Thirdly, these drugs might be producing fundamental changes in the host as well as the parasite organisms in terms of **Prakrti-Vighata** as conceived by the great Ayurvedic physician Charaka. All these

hypothetical concepts need further experimental support

ACKNOWLEDGEMENT

The authors are thankful to Dr. Komal Prasad Singh for his valuable help in preparation of the script of this paper and useful suggestions.

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