Renalka Syrup in the Treatment of Urinary Tract Infection

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SUMMARY
Forty patients with clinical diagnosis of urinary tract infection (UTI) were selected for the study. The X-ray for kidney ureter and bladder regions/ultrasonography were done in all cases and prostate gland was examined in elderly subject for evidence of benign prostatic hyperplasia. Antibiotics were withdrawn in all the patients. All the patients received Renalka syrup at a dose of 2 teaspoonfuls, twice daily (i.e. before breakfast and after dinner) for 2-4 weeks depending upon the clinical response. The patients with complicated UTI not responding to Renalka syrup in a week’s time were given appropriate antibiotics depending upon urinary pathogens and their sensitivity pattern. The factors responsible for complicated UTI were noted in each patient. The urine was culture positive in 32 (80%) patients. E. coli was the commonest organism. Proteus and Staphylococcus saprophyticus were seen in 1 and 3 patients respectively. However, urine was sterile in 8 (20%) patients. The combination of Renalka and antimicrobial was given in 9 (22.5%) patients with complicated UTI as they did not respond to Renalka alone in a week’s time. Twenty eight (70%) patients had a good clinical response to Renalka. The favourable clinical response was observed when Renalka syrup was combined with antibiotics in patients with complicated UTI. No adverse effects were seen in Renalka syrup therapy.

INTRODUCTION
Urinary tract infections are common bacterial infections treated in general practice and are responsible for considerable morbidity in certain groups. Urinary tract infection can be defined as a condition in which bacteria multiply within the urinary tract, regardless of bacterial count. Numerous antimicrobial agents are used to treat UTIs with mixed clinical response. Recurrent UTI, despite treatment with antimicrobial agents is a cause of clinical concern among patients. Hence alternative agents, other than antimicrobial drugs, that are beneficial in treating UTIs are required.

MATERIAL AND METHODS
The study was carried out at the Department of Nephrology, University Hospital, Banaras Hindu University, Varanasi, in forty patients of either sex. Urinary tract infection was diagnosed using standard criteria for (1) Symptomatic UTI (dysuria, increased frequency, fever), (2) Urinalysis with pus cells >5-10/hpf, (3) Growth of organism on MSU culture and (4) covert UTI with positive urine culture.

All the patients included in the study were subjected to a detailed clinical examination, urinalysis, urine culture, haemoglobin, total and differential leucocyte count, urea, creatinine
and blood glucose estimation. The ultrasonography/X-ray KUB region was done in all the cases. Prostate was examined in cases aged 60 or above. Paracetamol was used where fever was above 101°F. Antibiotics were withdrawn in all the patients included in this study. Renalka syrup was given orally at a dose of 2 teaspoonfuls, twice a day before breakfast and after dinner for 2-4 weeks depending upon clinical response. The efficacy of treatment was assessed weekly using clinical/or bacteriological criteria. The patients with complicated UTI not responding to Renalka syrup in a week’s time were given appropriate antibiotics depending upon urinary pathogens and their sensitivity pattern. The factors responsible for complicated UTI were noted in each patient.

RESULTS
This study included (male 31; female 9) 40 patients in the age group of 22-82. All patients had documented UTIs; symptomatic UTI in 30 (75%) and asymptomatic UTI in 10 (25%). Asymptomatic UTI (covert bacteriuria) was diagnosed on the basis of routine urinalysis and culture positive urine in diabetics, and patients with obstructed urinary tract, who otherwise had no clinical symptoms of UTI. Uncomplicated UTI (normal urinary tract and normal renal function) and complicated UTI were noted in 26 (65%) and 14 (35%) cases respectively (Table 1). The factors responsible for complicated UTI were diabetes 6 (42%), prostatic enlargement - 4 (28.5%), and renal stone - 2 (14.2%) patients. Hydronephrosis and solitary kidney were seen in one case each (Table 2). The majority (47.5%) of patients with symptomatic UTI had symptoms of less than a week’s duration. The clinical symptoms were of 1-2 weeks duration in 7 (17.5%) and more than 2 weeks duration in 4(10%) cases. The varying grades of renal failure (S. cri. 2.0-3.6 mg%) were noted in 6 (15%). The urine was culture positive in 32 (80%) patients. The commonest organism grown on culture was E. coli in 28 (70%) patients. Proteus and Staphylococcus saprophyticus were seen in 1 and 3 patients respectively. However, urine was sterile in 8 (20%) patients (Table 3).
Renalka syrup was used for 2-4 weeks in 31 (77.5%) patients. The combination of Renalka and antimicrobial was given in 9 (22.5%) patients with complicated UTI as they did not respond to Renalka alone in a week’s time. Twenty eight (70%) patients had a good clinical response to Renalka and 3 patients were lost for follow-up (Table 4). The drug was given for a period of two weeks in a majority of cases and 3 cases continued the treatment for 4 weeks. The clinical efficacy was assessed by the absence of symptoms of UTI and negative urine culture. One pregnant woman with UTI (E. coli positive) showed excellent response to Renalka syrup with respect to clinical symptom of UTI and subsequently, urine became free of pus cells and was culture negative. She was treated with various antibiotics prior to Renalka therapy without clinical response. The favourable clinical response was observed when Renalka syrup was combined with antibiotics in patients with complicated UTI. No adverse effects were seen in Renalka syrup therapy.

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<thead>
<tr>
<th>Table 4: Treatment outcome with Renalka syrup (n=40)</th>
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<td>Parameters</td>
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<td>Clinical response:</td>
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<td>Renalka alone</td>
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<td>Renalka + antibiotic</td>
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<td>Drop out</td>
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<td>Adverse effect</td>
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DISCUSSION

A definite diagnosis of UTI can only be made by culturing the urine\(^1\,\,2\). Bacterial culture was positive in 80% patients. Antibacterial agents are a major part of the treatment for UTI, supplemented with plenty of fluid. Even if symptoms regress in an untreated patient, the bacteriuria invariably persists. A major error in the management of UTI has been that most clinicians give too many drugs for too long a period. The aim of treating UTI should be to use the shortest course of the simplest, safest, and most economical antimicrobial agents that will eradicate the offending pathogens\(^3\,\,5\). The side effects of the chosen drugs should be weighed against the severity of the illness. The emergence of drug resistance (e.g. E. coli now resistant to amoxycillin) is another difficult situation in the management of UTI. Due to the side effects associated with antibiotics and drug resistance, a need for an alternative therapy is emphasised. Thus an open trial of Renalka syrup in the treatment of UTI in adults was conducted. Renalka syrup was taken orally by forty patients with UTI. Symptomatic improvement and urine free from pus cells were noted in 28 (70%) cases, suggesting a good clinical response. Antibiotics were used in combination with Renalka syrup in 9 cases with complicated UTI. Such combinations provide better cure of UTI then Renalka alone in patients with complicated UTI. No side effects were found and only three patients were lost to follow up.

Renalka syrup contains several ingredients that have a beneficial effect in the management of UTI like Varuna, Trinapanchmoole (Sariva, Musta and Ushira) and Gokshura\(^6\,\,7\). Varuna, Kulatha, and Gokshura have been used either as single drug or in compound formulations to manage urinary disorders in ancient classical texts of Ayurveda\(^8\). The anti-inflammatory and antilithiatic effects of Varuna have been proved in experimental animals\(^9\). It is proposed that the anti-inflammatory action of Varuna (an ingredient of Renalka) might have clinical efficacy in the treatment of UTI.
CONCLUSION
In treating uncomplicated UTI, Renalka syrup is an effective herbal formulation, which is safe and free from side effects. The patients with complicated UTI who do not respond well with Renalka alone need antimicrobial agents. Renalka syrup has been used in one pregnant woman with UTI and has given excellent results. Thus, Renalka syrup is an economical, safe and effective herbal preparation in the management of uncomplicated UTI in adults.

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REFERENCES