



**EFFECTIVENESS OF KOLLUKKAIVELAI VER KUDINEER IN THE TREATMENT OF
AZHAL NEERCHURUKKU (URINARY TRACT INFECTION) AMONG PATIENTS
ATTENDING OPD GSMC, PALAYAMKOTTAI – A CASE SERIES**

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ABSTRACT

UTI is defined as the bacterial invasion of the urinary tract. It is the most common bacterial infections. About 150 million people suffer from UTI each year globally. Women are most common because of short urethra. In Siddha literature, Azhal neerchurukku is closely related to the symptoms of UTI. **Aim and Objectives:** To estimate the effectiveness of *Kollukkaivelai ver kudineer* in the treatment of Azhal neerchurukku (UTI) patients. The primary objective was reduction of colony counts into <1,00,000 & secondary objective was reduction of symptoms. **Materials and Methods:** The descriptive study on Azhal Neerchurukku was carried out in OPD of GSMC&H Palayamkottai. The sample size was 20. All the patients were treated with *KOLLUKKAIVELAI VER KUDINEER* with the dose of 50 ml twice a day for 10 days. **Statistical Analysis:** Paired t test was used with SPSS software. **Results:** In clinical prognosis, there was reduction of symptoms like dysuria, frequency, urgency, suprapubic pain after treatment was noted. The p value was <0.001. No adverse reactions were observed. **Conclusion:** According to results, *KOLLUKKAIVELAI VER KUDINEER* was effective in the management of *Azhal neerchurukku* (UTI) patients.

KEYWORDS: *Kollukkaivelai ver kudineer, Azhal neerchurukku, Siddha medicine, Case series.*

1. INTRODUCTION

Urinary tract Infection (UTI), defined as the bacterial invasion of the urinary tract. It can occur anywhere between the urethra and the kidney. UTI is the commonest of all bacterial infections. About 150 million people suffer from UTI each year globally. UTI is more common in women because of short urethra. **ETIOLOGY:** Over 95% of UTIs are caused by Gram negative rods, and 90% of these are E coli. Other Enterobacteriaceae, Pseudomonas, and Gram-positive bacteria become increasingly common with chronic, complicated, and hospitalized patients. Of the Gram-positive bacteria enterococci are the most important. Staphylococcus saprophyticus, a coagulase negative staphylococcus, is now recognized as the cause in a significant minority symptomatic infection in young, sexually active women. Yeast particularly species of Candida, may be isolated from catheterised patients receiving antibacterial therapy and from diabetic individuals, but they seldom produce symptomatic disease. Common microbial pathogen causing UTI are

E.coli 50 – 90 %, Klebsiella / Enterobacter 10 – 40 %, Proteus 5 – 10 %, Pseudomonas aeruginosa 2 – 10 %, Staphylococcus saprophyticus 2 – 10 %, Enterococcus 2 – 10 %, Candida albicans 1 – 2 %, Staphylococcus aureus 1 – 2%. **CLINICAL FEATURES:** Acute infections of the lower urinary tract are characterized by a rapid onset of Dysuria (burning pain on passing urine), Urgency (the urgent need to pass urine), Frequency of micturition. In elders and those with indwelling catheters are usually asymptomatic. The urine is cloudy due to the presence of pus cells (pyuria) and bacteria (bacteriuria) and may contain blood (haematuria). Examination of urine specimens in the laboratory is essential to confirm the diagnosis. Patients with genital tract infections such as vaginal thrush or chlamydial urethritis may present with similar symptoms.

2. AIM and OBJECTIVE

The aim of this study is to estimate the effectiveness of *Kollukkaivelai ver kudineer* on *Azhal neerchurukku* (UTI) patients. Primary objective is to assess the

therapeutic effectiveness of the siddha medicine *Kollukkaivelai ver kudineer* in the treatment of *Azhal neerchurukku* (UTI) patients through urine culture. Secondary objective is to assess the reduction of clinical symptoms on *Azhal neerchurukku* (UTI) patients and to assess the age related to the disease.

3. MATERIALS AND METHODS

STUDY DESIGN: Descriptive study (Case series) was conducted over the period of 4 months at the outpatient and inpatient Department of Pothumaruthuvam, Government Siddha Medical college & Hospital, Palayamkottai. Total of 20 patients was diagnosed with *Azhal neerchurukku* (Urinary Tract Infection) in the study. Non-Random sampling was used.

Inclusion criteria: Patients with the age limit of 20 to 60 years either male and female with the colony counts of more than 1,00,000 of urine culture in laboratory investigation and the symptoms of dysuria, frequency, urgency, pain over suprapubic region, haematuria and who has willing to attend the OPD and provides urine sample for laboratory investigation before and after treatment.

3.2. DRUG PROPERTIES

Table 3.2: Ingredients of *Kollukkaivelai Ver Kudineer*.

S.No	INGREDIENTS	SCIENTIFIC NAME	PROPERTIES
1.	Kollukkaivelai ver	Tephrosia purpurea	Antimicrobial Antibacterial Antiviral
2.	Milagu	Piper nigrum	Antibacterial Antifungal Anti-inflammatory

3.3. The trial drug



Fig. 3.3.1: Kollukkaivelai ver kudineer chooranam.

3.4. METHODOLOGY

Data collection and Outcome Measures: This study was carried out on GSMC&H, Palayamkottai after obtaining permission from IEC (GSMC-XI IEC-Br-I/08/28.07.2023). The patients who were enrolled informed about the terms and objectives of the study in the regional language & informed consent obtained from

Exclusion criteria: Patients age above 61 years and below 19 years, colony counts of less than than 1,00,000 of urine culture, those who have pregnancy, lactating women, chronic kidney disease, autoimmune conditions like Glomerular nephritis, renal calculi, hydronephrosis were excluded.

Withdrawal criteria: Intolerance to the drug and development of any serious adverse reactions during the trial period, Patient turned unwilling to continue the clinical trial, increase in severity of symptoms and who did not take medication regularly.

3.1. TRAIL DRUG: *KOLLUKKAIVELAI VER KUDINEER*

BOOK REFERENCE: *Gunapadam (Porutpanbunool) mutharpagam – mooligai vaguppu* **AUTHOR:** Vaithiyarathinam Ka.Sa.Murugesu muthaliyar **YEAR OF PUBLICATION:** Ninth Edition – 2013 **PAGE NO:** 396 **SAMPLE SIZE:** 20 patients **DOSE:** 50 ml twice a day after food **DURATION:** 10 days **INDICATIONS:** Surangal, Kalleeral, Manneeral, **Kundikkai** noigal.

them in a consent form. The case series was designed to study the clinical efficacy of *KOLLUKKAIVELAI VER KUDINEER* for the treatment of *AZHAL NEERCHURUKKU* (URINARY TRACT INFECTION). Clinical symptoms were analysed by comparing the two points of data (before & after treatment) & assessed by using urine culture.

Statistical Analysis: Data were categorized and analysed by using MS-EXCEL and SPSS software. **Paired t-test** was used to assess the significance of changes in each patient (before and after treatment).

Quality Assurance: Protocol was reviewed by IEC. The study was registered with the Clinical Trials Registry of India (CTRI) with registration number CTRI/2023/10/058379. The research was supervised by guide and faculties of Pothumaruthuvam department. No vulnerable population were included in the study. The personal information of the participants was kept confidential. The study was conducted only after their consent.

4. RESULTS

DEMOGRAPHIC DATA

4.1. Age: Out of 20 patients 2 patients (10%) comes under the age group of 20-30 years, 3 patients (15%) belong to the age group of 31-40, 5 patients (25%) from 41-50 age group and 10 patients (50%) under the age group of 51 - 60 years.

4.2. Marital status: Out of 20 patients 10% were unmarried and 90% were married.

4.3. Diet: Out of 20 patients, 85% were Non vegetarian and 15% were vegetarian.

4.4. Naadi: Out of 20 patients 45% were vathapitham, 20% were pithavatham, 15% were vathakabam, 15% were pithakabam and 5% were kabapitham.

4.5. clinical features before and after treatment: In clinical features 17 cases (85%) had dysuria, 14 cases (70%) had frequency in urination, 13 cases (65%) had urgency in urination, 13 cases (65%) had suprapubic pain and 5 cases (25%) had haematuria at before treatment. **Improvement of clinical features:** Out of 20 cases 14

cases (70%) had clinically good improvement (symptoms completely relieved after treatment with test drug), 3 cases (15%) had moderately improved (symptoms slightly reduced), 3 cases (15%) had poor improvement (symptoms persists).

4.6. Laboratory Investigations (Urine culture) before and after treatment: Out of 20 cases Escherichia coli positive for 12 cases (60%) in before treatment, this organism negative for 8 cases (40%) in after treatment, Klebsiella pneumoniae positive for 5 cases (25%) this organism negative for 3 cases (15%) in after treatment, Proteus mirabilis positive for 1 case (5%), this organism negative in after treatment, Proteus vulgaris positive for 1 case (5%), this organism negative in after treatment, Enterococcus spp. positive for 1 case (5%), the organism negative in after treatment. **Laboratory Investigation (Urine culture) improvement:** Out of 20 cases, Good improvement in 14 cases (70%), Moderate improvement in 3 cases (15%), Poor improvement in 3 cases (15%). Good – Urine culture negative (no organism). Moderate – Colony count slightly reduced. Poor – Organism persists.

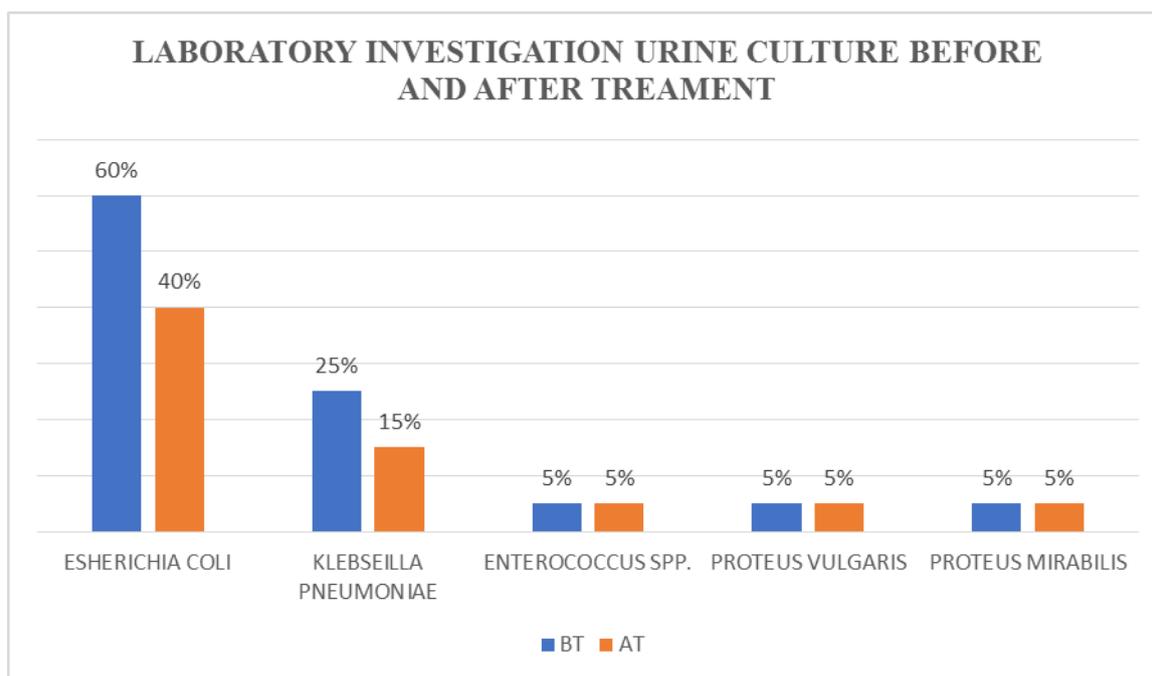


Fig. 4.6.1: Shows laboratory investigation urine culture before and after treatment.

4.7. Paired T Test

Table 4.7.1: Shows Mean and Standard deviation of patients.

S.NO	SYMPTOMS	MEAN ± SD	
		BT	AT
1	Dysuria	2.15 ± 1.040	0.4 ± 0.754
2	Frequency	1.75 ± 1.251	0.35 ± 0.875
3	Urgency	1.50 ± 1.192	0.35 ± 0.745
4	Suprapubic pain	1.50 ± 1.192	0.35 ± 0.745
5	Haematuria	0.30 ± 0.571	0

The mean differences in symptoms of dysuria, frequency, urgency, suprapubic pain and hematuria before treatment and after treatment are depicted statistically in the above table.

4.8. PAIRED TEST T VALUE HYPOTHESIS: In order to elicit the difference between the two groups, 'Before treatment' and 'after treatment', the paired t-test was employed. The results are depicted below the table 4.8.1.

Table 4.8.1: Shows T value and Hypothesis.

VARIABLE 1	VARIABLE 2	t value	2 tailed p value	SIGNIFICANCE
Dysuria BT	Dysuria AT	7.676	<0.001	HS
Frequency BT	Frequency AT	4.626	<0.001	HS
Urgency BT	Urgency AT	4.524	<0.001	HS
Suprapubic pain BT	Suprapubic pain AT	4.056	<0.001	HS
Haematuria BT	Haematuria AT	2.349	0.03	S

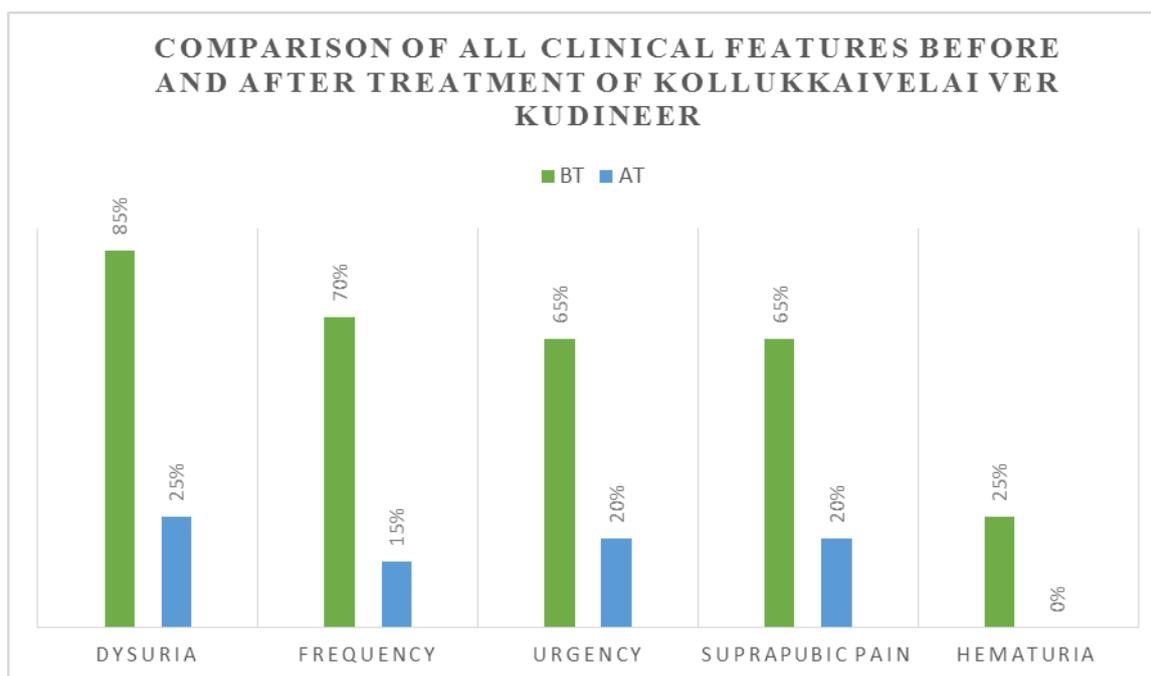
4.9. HYPOTHESIS

H_0 = There is no significant difference in dysuria between before and after treatment. H_a = There is significance difference in dysuria between before and after treatment. Hypothesis testing results Dysuria (<0.001), Frequency (<0.001), Urgency (<0.001), Suprapubic pain (<0.001), Haematuria (<0.001). Out of 20 cases Escherichia coli positive for 12 cases (60%) in before treatment, this organism negative for 8 cases (40%) in after treatment, Klebsiella pneumoniae positive

for 5 cases (25%) this organism negative for 3 cases (15%) in after treatment, Proteus mirabilis positive for 1 case (5%), this organism negative in after treatment, Proteus vulgaris positive for 1 case (5%), this organism negative in after treatment, Enterococcus spp. positive for 1 case (5%), the organism negative in after treatment.

4.10. DISCUSSION

Fig.4.10.1 shows comparison of all clinical features before and after treatment of kollukkaivelai ver kudineer.



Azhal neer churukku is one of the most common bacterial infection, particularly in females 20 -30% of women have recurrent infection at sometimes in their life. In men it is less common and primarily occur after 50 years of age. The signs and symptoms of *Azhal neerchurukku* are correlated with urinary tract infection in modern medicine. In this study, 20 cases of *Azhal neerchurukku* were diagnosed based on clinical symptoms and urine culture. All the cases were treated in outpatient department of GSMC&H, Palayamkottai, Tirunelveli. The patient's details, symptoms and proforma were recorded. The patients were treated for a

period of 10 days with *Kollukkaivelai ver kudineer* (Internal) at the dose of 50ml, twice a day after food. Clinical assessment was done during each visit of patient and the data were noted in the prescribed proforma. Urine culture was done in 0th day and 10th day of the study for all the enrolled patients. All the patients were put under observation for 1 month to follow up period without the study drug treatment. In urine culture, Out of 20 cases, Good improvement in 14 cases (70%), Moderate improvement in 3 cases (15%), Poor improvement in 3 cases (15%).

Out of 20 patients 10% were unmarried and 90% were married. Out of 20 patients most common naadi was vathapitham and pithavatham. After treatment, in clinical features 85% dysuria patients was reduced to 25%, 70% frequency in urination patients was reduced to 15%, 65% urgency in urination patients was reduced to 20%, 65% had suprapubic pain patients was reduced to 20% and 25% haematuria patients was reduced to 0% after treatment. Out of 20 cases 14 cases (70%) has clinically good improvement, 3 cases (15%) had moderately improved, 3 cases (15%) had poor improvement. The paired t test showed significant difference between before and after treatment in the clinical symptoms ($p < 0.001$).

CONCLUSION

The aim of the study was to evaluate the therapeutic effectiveness of the study drug *Kollukkaivelai ver kudineer* in *Azhal neerchurukku*. The case series revealed that out of 20 cases, Good improvement in 14 cases (70%), Moderate improvement in 3 cases (15%), Poor improvement in 3 cases (15%). After treatment, Out of 20 cases 14 cases (70%) has clinically good improvement (symptoms completely relieved after treatment with test drug), 3 cases (15%) had moderately improved (symptoms slightly reduced), 3 cases (15%) had poor improvement (symptoms persists). There was no adverse reaction complaint received during the study. There were no recurrences of urinary infection during the follow up period of one month. Statistical analysis showed significant difference between before and after treatment in the clinical symptoms ($p < 0.001$). The case series indicates *KOLLUKKAIVELAI VER KUDINNEER* is effective in the management of *Azhal neerchurukku*.

REFERENCE

1. Ashokkumar D, Narayana TV, Vidyasagar, Mazumder UK, Gupta M. Exploration of diuretic potential and electrolyte excretion of *Tephrosia purpurea* (Fabaceae) in rats. *J Diet Suppl*, Mar. 2012; 9(1): 9-18. doi: 10.3109/19390211.2011.630715. Epub 2012 Jan 11. PMID: 22432799.
2. Dalwadi P, Patel J, Patani P. *Tephrosia purpurea* Linn (Sharpunkha, Wild Indigo): A Review on Phytochemistry and Pharmacological Studies. *IJPBR* [Internet]. 31 Mar. 2014 [cited 31Jan.2024]; 2(01): 108-21. Available from: <https://ijpbr.in/index.php/IJPBR/article/view/778>
3. Deva asirvatham samuvel, Marunthu sei ilyalum kalaium
4. Egharevba GO, Dosumu OO, Oguntoye SO, Njinga NS, Dahunsi SO, Hamid AA, Anand A, Amtul Z, Ujjukuri P. Antidiabetic, antioxidant and antimicrobial activities of extracts of *Tephrosia bracteolata* leaves. *Heliyon*, Aug 21, 2019; 5(8): e02275. doi: 10.1016/j.heliyon.2019.e02275. Erratum in: *Heliyon*. 2019 Sep 27; 5(9): e02481. PMID: 31485511; PMCID: PMC6716168.
5. K.N. Kuppasamy mudaliyar, Siddha maruthuvam pothu, 2012 edition.
6. Nisar Ahmad, Hina Fazal, Bilal Haider Abbasi, Shahid Farooq, Mohammad Ali, Mubarak Ali Khan, Biological role of *Piper nigrum* L. (Black pepper): A review, *Asian Pacific Journal of Tropical Biomedicine*, Volume 2, Issue Supplement, 2012; S1945-S1953, ISSN 2221-1691, [https://doi.org/10.1016/S2221-1691\(12\)60524-3](https://doi.org/10.1016/S2221-1691(12)60524-3).
7. Rathiga, G (2018) *Clinical Evaluation of Siddha Herbal Formulation Mallikai Choornam (Internal) in the treatment of Azhal Neerchurukku (Urinary Tract Infection)*. Masters thesis, National Institute of Siddha, Chennai.
8. Vaithiyarathinam Ka.Sa.Murugesu muthaliyar, Gunapadam (Porutpanbunool) mutharpagam – mooligai vaguppu, 2013 edition, 396.
9. Yugi vaithiya sinthamni, 2nd edition, 2005, Published by Thamarai pathipagam.