



Research Article

A COMPARATIVE CLINICAL STUDY TO EVALUATE THE EFFECT OF *HARITAKYADI KWATHA* AND *ELADI CHURNA* IN THE MANAGEMENT OF *PITTAJ MUTRAKRICHHA* W.S.R. TO URINARY TRACT INFECTION

Swati^{1*}, Thakur Sunil², Chaudhary Vijay³

*¹MD Scholar, ²Professor, ³Principal cum Dean, P.G. Dept of Kayachikitsa, R.G.G.P.G. Ayurvedic College & Hospital, Paprola, Himachal Pradesh, India.

Article info

Article History:

Received: 23-09-2023

Accepted: 15-10-2023

Published: 05-11-2023

KEYWORDS:

Pittaj
Mutrakrichha,
Haritakyadi
Kwatha, *Eladi*
Churna.

ABSTRACT

Mutrakrichha is a disorder of *Mutravahastrotas*, The term '*Mutrakrichha*' means pain and difficulty during passage of urine. Vitiated *Pitta* and *Pratiloma Gati* of *Apana Vayu* are considered to be the two major factors for the pathogenesis of the disease "*Mutrakrichha*". The symptoms of *Pittaj Mutrakrichha* such as *Saruja/Krichha Mutrapravrutti* (dysuria), *Sarakta Mutrata* (haematuria), *Sadaha Mutrata* (burning micturition), *Muhurmuhu Mutrapravrutti* (increased frequency or urgency of micturition) are coincide with the symptoms of lower urinary tract infection. Clinical presentation of *Pittaj Mutrakrichha* shows close resemblance to UTI's as described in modern texts especially with lower urinary tract infections i.e., Urethritis and Cystitis. Globally UTI affect 150 million people worldwide annually. Urinary tract infection is a broad term that encompasses both asymptomatic microbial colonization of the urine and symptomatic infection with microbial invasion and inflammation of urinary tract. *E.coli* is the most common causative organism to cause UTI. 32 patients who were diagnosed with *Pittaj Mutrakrichha* w.s.r to urinary tract infection were allocated randomly into two groups. The trial drugs i.e., *Haritakyadi Kwatha* 50ml was given to 16 patients of group-I and *Eladi Churna* 3gm was given to 16 patients of group-II for duration of 4 weeks.

INTRODUCTION

Mutrakrichha is very well described under the disorders of *Mutravaha Strotas*. *Dosha*, *Dhatu* and *Mala* are the building blocks of the body. Among *Trimala*, *Mutra* is responsible for *Bastipoorana* and *Kleda Vahanam*. When this physiology is hampered it leads to *Mutravaha Stroto Dusti Vikaras*. Amongst them *Pittaj Mutrakrichha* is commonly occurring condition, in which subject complaining the *Shulayukta*, *Raktayukta*, *Dahayukta*, and *Muhurmuhur Mutrapravritti* etc.^[1] When person indulges in *Nidana Sevana* like intake of *Ati Ruksha*, *Ushna*, *Tikshna Ahara* and the person indulges in *Vyavaya* or intake of *Ahara* and *Udakapana*

during the urge of micturition, *Mutra Vegadharana*, *Ati Vyavaya* and *Atigamana* on *Gajavaji*, leads to diseases of *Mutravahastrotodusti Vikaras*.^[2]

It can be concurrent to lower UTI where dysuria, burning micturition and increased frequency of urination etc are most regular complaint. The clinical presentation of the *Pittaj Mutrakrichha* can be correlated to lower urinary tract infection.

Most of the urinary disorders are described in the form of 8 types of *Mutrakrichha*, 13 types of *Mutraghata*, 4 types of *Ashmari* and 20 types of *Prameha*. *Vagbhata* classified *Mutraroga* into two major types i.e., *Mutra-Apravritijanya* and *Mutra-Atipraritijanya* disorders. *Mutrakrichha* comes under *Mutra-Apravritijanya* disorders.

Charaka has classified *Mutrakrichha* into 8 types i.e., *Vataj*, *Pittaj*, *Kaphaj*, *Sannipataj*, *Asmarij*, *Sarkaraj*, *Sukraj* and *Raktaj*. Symptomatology of the disease reveals that various stages of acute and chronic urinary tract infections, including the inflammatory

Access this article online

Quick Response Code



<https://doi.org/10.47070/ayushdhara.v10i5.1396>

Published by Mahadev Publications (Regd.)
publication licensed under a Creative Commons
Attribution-NonCommercial-ShareAlike 4.0
International (CC BY-NC-SA 4.0)

conditions with irritative voiding symptoms. The symptoms of *Pittaj Mutrakrichha* such as *Saruja/Krichha Mutrapravritti, Sarakta Mutrata, Sadaha Mutrata, Muhurmuhur Mutrapravritti* are coinciding with the symptoms of lower urinary tract.

Urinary tract infection is defined as significant bacteriuria in presence of either lower or upper urinary symptoms with associated clinico-pathological consequences and is caused by a range of pathogens, but most commonly by *Escherichia coli*, *Klebsiella pneumoniae*, *Proteus mirabilis*, *Enterococcus faecalis* and *Staphylococcus Saprophyticus*.

Urinary tract infection refers to both microbial colonization of the urine and tissue invasion of any structure of the urinary tract. Bacteria are most commonly responsible, although yeast, fungi and viruses may produce urinary infection^[3].

AIMS AND OBJECTIVES

1. Primary Objective: To compare the clinical efficacy of *Haritakyadi Kwatha* and *Eladi Churna* on various clinical parameters in the management of *Pittaj Mutrakrichha* w.s.r. to Urinary Tract Infection.

2. Secondary Objective: To evaluate the clinical safety of *Haritakyadi Kwatha* and *Eladi Churna* in the management of *Pittaj Mutrakrichha* w.s.r. to Urinary Tract Infection.

MATERIALS AND METHODS

Selection of Patients

- The proposed research work was a clinical trial on willing volunteers. Total 32 patients of *Pittaj Mutrakrichha* fulfilling the diagnostic and inclusion criteria were registered in this study from OPD and IPD of R.G.G.P.G. Ayu. College and Hospital, Paprola, Dist-Kangra (H.P.). A sample of 32 patients- 16 patients in each group was assessed in the clinical study.

Study Design

Study type- Randomized clinical trial
 Masking - Single blind
 Timing - Prospective
 Number of patients - 32 patients (16 in each group)
 No. of Groups- 2

Duration of trial - 4 weeks
 Follow up - After every 15 days till the completion of trial

Diagnostic Criteria

Subjective Criteria: Following signs and symptoms were considered for the diagnosis as mentioned in classical texts.

- Sarakta Mutrata* = Haematuria
- Saruja Mutrata* = Painful micturition
- Sadaha Mutrata* = Burning micturition
- Krichha Mutrata* = Difficulty during micturition
- Muhur Muhur Mutrata* = Increased frequency of micturition
- Peeta Mutrata* = Turbidity of urine

Objective Criteria

- Urine microscopic showing pus cells >5/hpf
- Urine culture

Inclusion Criteria

- Patients in the age group of 20 -70 yrs.
- Patients willing for trial and the patients who had no serious organic or metabolic ailments.
- Patients who present with sign and symptoms as mentioned in classical texts.

Exclusion Criteria

- Patients Below the age of 20yrs and above the age of 70yrs.
- Patients not willing for trial.
- Patient with chronic renal Failure and diabetes mellitus will be excluded.
- Case of associated obstructed uropathy and suffering from chronic illness.
- Pregnant & lactating women

Drug Source

Haritakyadi Kwatha and *Eladi Churna* will be prepared in the pharmacy as per standard reference given by *Chakraddatta Mutrakrichhrogadikara*

Intervention Trial Drug

Group-I- *Haritakyadi Kwath* was given in the dosage of 50ml twice a day for 28days.

Group-II- *Eladi Churna* was given in the dosage of 3g twice a day for 28 days.

Sr.No.	Criteria of Assessment (Grading)
1.	<i>Sadaha Mutrata</i> (Burning micturition) 0- No burning micturition 1- Mild burning micturition (burning at the starting of micturition) 2- Moderate burning micturition (burning at the starting and during micturition) 3- Severe burning micturition (burning which is not tolerable and prolonged for time)
2.	<i>Krichha Mutrata</i> (Difficulty in micturition) 0- No difficulty 1- Difficulty present at the beginning of the act

	2- Difficulty present at the beginning and partially during the rest of the act. 3- Difficulty present throughout the act of micturition.
3.	Saruja Mutrata (Dysuria) 0- No Pain 1- Mild pain (patient not complaining of pain as a symptom but on interrogation patient complains of slight pain) 2- Moderate pain (patient complains of pain) 3- Severe pain (patient complain of pain and ask for immediate intervention)
4.	Muhur Muhur Mutrata (Increased Frequency of micturition) 0- No frequent micturition (patient passing urine 4 -5 times a day) 1- Frequent micturition but controllable (patient passing urine 6-10 times a day) 2- Frequent micturition but not able to control (patient passing urine 11-20 times a day) 3- Frequent micturition (patient passing urine >21 times a day)
5.	Peeta Mutrata (Yellowish discolouration of urine) 0- Straw colour 1- Lemon yellow colour 2- Dark yellow colour 3- Mustard yellow colour
6.	Sarakta Mutrata (Haematuria) Grade-0- No haematuria Grade-1- Smoky urine Grade-2- Reddish urine Grade-3 - Frank haematuria
7.	Pus cells in urine 0- 0-5/h.p.f 1- 6-10/h.p.f 2- 11-20/h.p.f 3- >20/h.p.f
8.	RBC's in urine Urine mixed with blood or graded according to number of RBC's in urine No urine mixed with blood (0-3): Grade 1 Urine dipstick test positive (Rare urine mixed with blood) (4-20): Grade 2 Macroscopically invisible but present in microscopy (21-40): Grade 3 Severe, visible to bare eyes Frank blood mixed micturition (above 40): Grade 4

Haritakyadi Kwatha Ingredients^[4]

S.No.	Ingredients	Botanical Name	Rasa	Guna	Virya	Vipaka	Doshaghanta
1.	Haritaki	<i>Terminalia chebula</i> (Retz.)	Kashaya, Tikta, Madhura, Katu, Amla	Laghu, Ruksha	Ushana	Madhura	Tridoshahara
2.	Gokshura	<i>Tribulus terrestris</i> (L.)	Madhura	Guru, Snigdha	Sheeta	Madhura	Vatapittahara
3.	Amaltasa	<i>Cassia fistula</i> (Linn.)	Madhura	Guru, Snigdha, Mridu	Sheeta	Madhura	Pittakaphahara
4.	Pashanbheda	<i>Bergenia ciliate</i> (Haw.) sternb.	Kashaya, Tikta	Laghu, Snigdha, Tikshana	Sheeta	Katu	Tridoshhara
5.	Yavasa	<i>Alhagi camelorum</i> (Fisch.)	Kashaya, Tikta, Madhura, Katu	Laghu, Snigdha	Ushna	Madhura	Vatapittahara

Eladi Churna Ingredients^[4]

S. No.	Ingredients	Botanical Name	Rasa	Guna	Virya	Vipaka	Doshaghanta
1	Ela	<i>Elettaria cardamomum</i> (L.)	Katu, Madhura	Laghu, Ruksha	Sheeta	Madhura	Vatakaphahara
2.	Pashanbheda	<i>Bergenia ciliata</i> (Haw.) Sternb.	Kashaya, Tikta	Laghu, Snigdha, Tikshna	Sheeta	Katu	Tridosahara
3.	Shilajit	Asphaltum	Tikta, Lavana	Laghu, Ruksha	Sheeta	Katu	Tridosahara
4.	Pippali	<i>Piper lomgum</i> (L.)	Katu	Laghu, Snigdha, Tikshna	Anushna, Sheeta	Madhura	Vatakaphahara

Final Assessment of Results

Statistical Analysis: Data obtained during the trial was tabulated and statistically analysed using student Paired 't' Test. The results were considered significant or insignificant on the basis of value of 'p'

- Highly significant $p < 0.001$
- Significant $p < 0.05$
- Insignificant $p > 0.05$

OBSERVATIONS AND RESULTS

Among 32 registered patients, the increased incidence of urinary tract infections in second and sixth decades of life was seen i.e., 53.12%. Majority of the patient's i.e., 59.37% were female. All the patients belonged to Hindu community. 29 patients (90.62%)

were married and 19 patients i.e., 59.37% were belongs to rural area. It was seen that 11 patients i.e., 65.62% patients were farmer followed by 10 patients who were doing household work and in economic status majority of them were belongs to upper class.

84.37% patients were having mixed diet. 43.75% had no addiction. 56% patients had normal appetite. 62.5% patients had regular bowel habit. Maximum patients i.e., 53.12% presented with Burning micturition, 68.74% patients had poor personal hygiene and past history of UTI was present in 65.62% patient. 50% patient had *Vata- Pittaj Prakriti*. 68.74% patient had poor personal hygiene.

The Incidence of Signs and Symptoms of Pittaj Mutrakrichha in 32 Patients

Clinical features	Group-I		Group-II		Total	Percentage
	No. of pts	%	No. of pts	%		
<i>Sadaha Mutrata</i>	7	43.75%	10	62.5%	17	53.12%
<i>Peeta Mutrata</i>	6	37.5%	8	50%	14	43.75%
<i>Krichha Mutrata</i>	8	50%	4	25%	12	37.5%
<i>Saruja Mutrata</i>	5	31.25%	4	25%	9	28.12%
<i>Muhur-Muhur Mutrata</i>	2	12.5%	8	50%	10	31.25%
<i>Sarakta Mutrata</i>	2	12.5%	3	18.75%	5	15.62%

Effect of Therapy & Results

A total 32 patients of *Pittaj Mutrakrichha* were registered for the present clinical study. Out of them 2 patients didn't complete the trial, remaining 30 patients completed the therapy. Effect of therapy is as under:

Effect of Therapy Based on Subjective Criteria in Group-I

The effect of therapy on various assessment criteria was obtained after statistical analysis of the data and is presented in tabular form.

Criteria	Mean score	%	Mean Diff.	S.D.+	S.E.+	t- value	P-value	Significance	
	BT	AT							
<i>Sadaha Mutrata</i>	1.400	0.333	76.21%	1.067	0.594	0.153	6.959	<0.001	HS
<i>Krichha Mutrata</i>	1.000	0.333	66.7%	0.667	0.488	0.126	5.292	<0.001	HS
<i>Saruja Mutrata</i>	1.133	0.333	83.9%	0.800	0.676	0.175	4.583	<0.001	HS
<i>Muhur Muhur Mutrata</i>	0.867	0.200	76.93%	0.667	0.488	0.126	5.292	<0.001	HS
<i>Peeta Mutrata</i>	1.333	0.200	84.99%	1.133	0.352	0.0909	12.475	<0.001	HS
<i>Sarakta Mutrata</i>	1.00	0.467	53.3%	0.533	0.516	0.133	4.00	0.001	S

Effect of therapy on Subjective criteria in Group-II

Criteria	Mean Score		%	Mean Diff.	S.D	S.E	t-value	P-value	Significance
	BT	AT							
<i>Sadaha Mutrata</i>	1.600	0.133	91.68%	1.467	0.640	0.165	8.876	<0.001	HS
<i>Krichha Mutrata</i>	1.00	0.0667	93.3%	0.933	0.704	0.182	5.137	<0.001	HS
<i>Saruja Mutrata</i>	1.067	0.133	94.23%	0.933	0.594	0.153	6.089	<0.001	HS
<i>Muhur Muhur Mutrata</i>	0.867	0.133	84.65%	0.733	0.458	0.118	6.205	<0.001	HS
<i>Peeta Mutrata</i>	1.467	0.1333	90.91%	1.333	0.488	0.126	10.583	<0.001	HS
<i>Sarakta Mutrata</i>	0.600	0.200	66.66%	0.400	0.632	0.163	2.449	0.028	S

Intergroup comparison of subjective criteria

S.No.	Symptoms	% Relief		Diff. in %	SD+-	SE+-	't'	p-value	Sig.
		Group-I	Group-II						
1.	<i>Sadaha Mutrata</i>	76.21%	91.68%	-15.47%	0.6405	0.2427	-1.775	0.087	IS
2.	<i>Krichha Mutrata</i>	66.2%	93.3%	-26.63%	0.6283	0.2381	-1.206	0.238	IS
3.	<i>Saruja Mutrata</i>	83.9%	94.23%	-10.33%	0.6602	0.2501	-0.574	0.571	IS
4.	<i>Muhur Muhur Mutrata</i>	76.93%	84.65%	-7.72%	0.4909	0.1860	-0.386	0.702	IS
5.	<i>Peeta Mutrata</i>	84.99%	90.91%	-5.92%	0.4414	0.1672	-1.288	0.208	IS
6.	<i>Sarakta Mutrata</i>	53.3%	66.66%	-13.36%	0.5991	0.2270	0.632	0.532	IS

Effect of Therapy based on objective criteria of Group-I

Category	Mean score		%	Mean Diff.	SD +-	SE+-	t-value	p-value	Significance
	BT	AT							
Pus cells	1.267	0.600	52.6%	0.667	0.488	0.126	5.292	<0.001	HS
RBC's	1.333	1.000	58.28%	0.333	0.488	0.126	2.646	0.019	S
Urine culture	1.000	0.667	33.3%	0.333	0.488	0.126	2.646	0.019	S

Effect of Therapy based on objective criteria of Group-II

Category	Mean score		%	Mean Diff.	SD+-	SE+-	t-value	p-value	Significance
	BT	AT							
Pus cells	1.333	0.733	45.01%	0.600	0.507	0.131	4.583	<0.001	HS
RBC's	1.267	1.000	47.77%	0.267	0.458	0.118	2.256	0.041	S
Urine culture	1.000	0.733	26.7%	0.267	0.458	0.118	2.256	0.041	S

Intergroup comparison of effect of therapy on objective criteria

S. No.	Category	% Reduction		Diff. in % age	SD+-	SE+-	t-value	p-value	Sig.
		Group I	Group II						
1.	Pus cell	52.6%	45.01%	7.56%	0.5163	0.1956	0.367	0.716	IS
2.	RBC's	58.28%	47.77%	10.51%	0.4909	0.1860	0.386	0.702	IS
3.	Urine culture	33.3%	26.7%	6.6%	0.4909	0.1860	0.386	0.702	IS

Effect of therapy on Biochemical parameters

Category	Group	Mean score		% Change	Mean Diff.	SD+-	SE+-	t-value	p-value	Sig.
		BT	AT							
SGOT (IU/L)	Group-I	26.133	26.067	0.25%	0.667	4.334	1.119	0.059	0.953	IS
	Group-II	25.200	25.067	0.52%	0.133	2.800	0.723	0.184	0.856	IS
SGPT (IU/L)	Group-I	22.800	22.600	1.99%	0.200	2.678	0.691	0.289	0.777	IS
	Group-II	23.933	23.733	0.83%	0.200	3.028	0.782	0.256	0.802	IS
B.UREA (mg/dl)	Group-I	27.733	27.400	1.20%	0.333	3.773	0.974	0.342	0.737	IS
	Group-II	22.667	22.267	1.76%	0.400	2.772	0.716	0.559	0.585	IS
S. CREAT (mg/dl)	Group-I	0.913	0.880	3.64%	0.033	0.202	0.052	0.638	0.534	IS
	Group-II	0.913	0.887	2.92%	0.026	0.167	0.043	0.619	0.546	IS
FBS (mg/dl)	Group-I	93.733	92.333	1.49%	1.400	6.104	1.576	0.888	0.389	IS
	Group-II	93.667	92.133	1.63%	1.533	11.43	2.953	0.519	0.612	IS

Effect of therapy on Haematological parameters

Category	Group	Mean score		% Change	Mean Diff.	SD+-	SE+-	t-value	p-value	Sig.
		BT	AT							
Hb gm/dl	Group-I	11.407	11.38	0.23%	0.026	0.812	0.210	0.127	0.901	IS
	Group-II	11.853	11.77	0.67%	0.080	0.852	0.220	0.364	0.722	IS
TLC (/cumm)	Group-I	8.887	8.680	2.32%	0.207	0.830	0.214	0.964	0.351	IS
	Group-II	8.360	8.173	2.23%	0.187	0.550	0.142	1.314	0.210	IS
LYM %	Group-I	23.133	23.00	0.57%	0.133	4.240	1.095	0.122	0.905	IS
	Group-II	24.933	24.86	0.26%	0.066	2.915	0.753	0.088	0.931	IS
MXD%	Group-I	7.773	7.747	0.34%	0.026	0.437	0.113	0.237	0.816	IS
	Group-II	7.833	7.720	1.44%	0.113	0.444	0.115	0.989	0.339	IS
NEUT %	Group-I	69.40	68.68	1.03%	0.720	5.598	1.445	0.498	0.626	IS
	Group-II	68.72	68.66	0.07%	0.053	2.927	0.756	0.070	0.945	IS
ESR (mm fall in first hour)	Group-I	27.86	27.53	1.19%	0.333	4.515	1.166	0.286	0.779	IS
	Group-II	25.73	25.60	0.51%	0.133	6.653	1.718	0.077	0.939	IS

Intergroup comparison of effect of therapy on Biochemical parameters

S.No.	Category	% Change		Diff. of % relief	SD+-	SE+-	t-value	p-value	Sig.
		Group I	Group II						
1	SGOT (IU/L)	0.25%	0.52%	-0.27%	3.7859	1.4346	-0.0500	0.960	IS
2	SGPT (IU/L)	1.99%	0.83%	1.16%	2.9664	1.1240	0.000	1.000	IS
3	B.UREA (mg/dl)	1.20%	1.76%	-0.56%	3.4358	1.3019	-0.0551	0.956	IS
4	S.CREAT (mg/dl)	0.73%	0.69%	0.04%	0.1924	0.0729	-0.0985	0.922	IS
5	FBS (mg/dl)	1.49%	1.63%	-0.14%	9.5138	3.6050	-0.0398	0.969	IS

Intergroup comparison of effect of therapy on Haematological parameters

S.No.	Category	% Change		Diff. of % relief	SD+-	SE+-	t-value	p-value	Sig.
		Group I	Group II						
1	Haemoglobin	0.23%	0.67%	-0.44%	0.8636	0.3272	-0.176	0.862	IS
2	TLC	2.32%	2.23%	0.09%	0.7308	0.2769	0.0778	0.939	IS
3	LYM%	0.57%	0.26%	0.31%	3.7757	1.4307	0.0502	0.960	IS
4	MXD%	0.34%	1.44%	-1.1%	0.4568	0.1731	-0.539	0.594	IS
5	NEUT%	1.01%	0.07%	0.94%	4.6354	1.7565	0.409	0.686	IS
6	ESR	1.19%	0.51%	0.68%	5.900	2.2357	0.0963	0.924	IS

Raw Drugs of Haritakyadi Kwatha



Haritaki



Gokshura



Yavasa



Aragvadha



Pashanabheda



Prepared Drug: Haritakyadi Kwatha

Raw Drugs of Eladi Churna



Ela



Pashanabheda



Shudh Shilajit



Pippali



Prepared Drug: Eladi Churna

Effect of Therapy on Subjective Criteria

Predominance of signs and symptoms of *Pittaj Mutrakrichha* were studied in 32 patients.

- The clinical features like *Sadaha Mutrata* was present in 53.12% of patients followed by *Peeta Mutrata* i.e., 43.75% and *Krichha Mutrata* i.e., 37.5% in each clinical feature. 31.25% and 28.12% of patients had *Muhur Mutrata* and *Saruja Mutrata* respectively.

Sadaha Mutrata: 76.21% relief in Group-I and 91.68% relief in Group-II was found after the therapy. The results revealed that therapy given in Group-II showed better results with higher reduction in *Sadaha Mutrata* i.e., 91.68% as compared to Group-1 i.e., 76.21%.

Muhur Muhur Mutrata: After treatment 84.65% relief in Group-II and 76.93% relief in Group-I were observed. Intergroup comparison showed that the effect of therapy on *Muhur Muhur Mutrata* was better in Group-II patients with 84.65% more relief than Group-I.

Saruja Mutrata: 83.9% relief was observed in Group-I and 94.23% relief was found in Group-II. Intergroup comparison showed that the effect of therapy on *Saruja Mutrata* was better in Group-II patients, in terms of percentage than Group-I.

Peeta Mutrata: Data shows that 84.99% relief was observed in Group-I and 90.91% was found in Group-II. Intergroup comparison showed that the effect of therapy on *Peeta Mutrata* was better in Group-II patients, in terms of percentage than Group-I.

Krichha Mutrata: 66.7% relief in Group-I and 93.33% relief in Group-II was found. Intergroup comparison showed that the effect of therapy on *Krichha Mutrata* was better in Group-II.

Sarakta Mutrata: Data shows that 53.3% relief was observed in Group-I and 66.66% was found in Group-II. Intergroup comparison showed that the effect of therapy on *Sarakta Mutrata* was better in Group-II patients, in terms of percentage than Group-I.

- All patients were having pus cells in urine. After completion of treatment there was 52.6% reduction in pus cells in urine in Group-I whereas in Group-II there was 45.01% reduction in pus cells in urine.
- Nine patients were having RBC's in urine. After completion of treatment there was 58.28% reduction in RBC's in urine in Group-I whereas in Group-II there was 47.77% reduction in RBC's in urine.
- Urine culture was positive in 30 patients. In Group-I, the mean value of urine culture before treatment was 1 that decreased to 0.667 after treatment with a change of 33.3%. This change was statistically

significant with p -value 0.019. In group-II, mean value for urine culture was 1 that decreased to 0.733 after treatment with a change of 26.7%. The changes were statistically significant (p-value-0.041).

Effect of therapy on Haematological Parameters

No untoward effect of the therapy was seen on the haematological profile of the patients. The values obtained before and after the completion of therapy remained within normal limits. On comparing both groups, it was found that all the haematological parameters were within normal limits before and after the trial. No statistically significant difference found between the two groups after trial.

Effect of therapy on Biochemical Parameters

The results obtained on the biochemical parameters like Fasting blood sugar, Blood Urea, Serum creatinine, Serum glutamate oxaloacetic transaminases and Serum glutamate pyruvic transaminases remained within normal limits both before and after the completion of therapy. On the inter group comparison difference, statistically insignificant difference was found in biochemical parameters.

Probable Mode of Action ^[5,6]

Haritakyadi Kwatha

Haritaki due to its *Madhur* and *Tikta Rasa* acts as *Pittaghna* and due to *Madhur* Rasa and *Ushna Veerya* it pacifies *Vata Dosha*.

- Haritaki* has *Tridosahara*, *Vedanasthapaka*, *Shothahara*, *Anuloma* property. By these properties, vitiated *Dosha* and *Mala* are excreted out of body.
- Haritaki* contain bioactive compounds (flavonoids, galloctannin, phytol, polyphenols, gallic acid) act as antibacterial, antifungal, antiparasitic.
- Aragwadha* due to its *Madhur Rasa* and *Sheetaveerya*, it acts as *Mutral* and *Pittashamak*.
- Gokshura* with *Madhur Rasa* and *Snigdha*, *Guru Guna*, *Sheet Virya* *Vatapittashamaka*, *Mutrakrichhahara*, *Mutrvirechniya* properties and by *Mutravirechniya* action, urine volume is increased, and inflammation is reduced.
- Pashanbhed* due to its *Laghu* and *Teekshna Guna* is helpful for action of *Ashmari Bhedan* and *Kaphapitta Shaman*.
- Yavasa* with *Snigdha* and *Laghu Guna* acts *Mutral* and *Pittashamak*.

Prakshepaka Dravya

- Madhu* is *Sookshma* and *Srotovishodaka* it removes *Sthanika Sanga* and *Lekhana* and hence pacifies the vitiated *Doshas*.

- As *Madhu* is *Yogavahi* it increases the properties of *Kwatha* and carries it to *Sookshma Srotas* and does *Strotoshodhana*.

Thus *Haritakyadi Kwatha* works in *Pittaj Mutrakrichha*. Overall, the drugs are *Tridosahara* and *Mutral*. With this *Kwatha Madhu* is added as a *Prakshepaka Dravya* which is *Sookshma* and *Strotovishodaka* it removes *Sthanikasanga* and does *Lekhana* and hence pacifies the vitiated *Doshas*. As *Madhu* is *Yogavahi* it increases the properties of *Kwatha* and carries it to *Sookshma Srotas* and does *Strotoshodhana*.

Eladi Churna [5,6]

- In Ayurvedic classics, *Ela* is described in *Katuskandha*, *Sirovirechaniya Gana* and has *Katu*, *Madhura Rasa*; *Laghu*, *Ruksha Guna*; *Sheeta Virya* and *Madhura Vipaka*. Due to all these properties, it pacifies *Pitta* and *Vata Dosha*. It contains anti-aflatoxin substance which acts as very good anti-septic. N-hexane extract of seed exhibit anti-microbial activity against *Streptococcus*.
- *Shilajit* has been described as *Rasayana* drug which is *Vrishya* and *Tridoshghana*. Because, it has *Tikta Rasa* and *Sheeta Virya*, it pacifies *Pitta Dosha*. It has very good diuretic property, therefore manage UTI.
- In Ayurvedic literature, *Pashanabheda* is explained under *Mutra-Virechaniya Gana*, with similar *Rasa* and *Virya* as *Shilajit* holds. Therefore, it act as good diuretic and very useful in dysuria, it also has lithotriptic activity.
- *Pippali* possesses *Katu Rasa*, *Anusana Sheeta Virya* and *Madhura Vipaka*. By virtue of its unique property it pacifies both vitiated *Pitta* and *Vata Dosha*. It has good analgesic property.

CONCLUSION

- Both trial drug i.e., *Haritakyadi Kwatha*, *Eladi Churna*, showed statistically highly significant result on subjective parameters i.e., *Sadaha Mutrata*, *Krichha Mutrata*, *Peeta Mutrata*, *Muhur Muhur Mutrata* while *Sarakta Mutrata* showed statistically

significant result. Whereas better results were observed in Group-II, where in *Eladi Churna* was given.

- *Eladi Churna* showed statistically highly significant result on pus cells in urine while statistically significant result was found on RBC's and in urine culture. Whereas better result was found in group-I, where in *Haritakyadi Kwatha* was given.
- Other haematological and biochemical parameters i.e., Hb_{gm}%, TLC, DLC, FBS, blood urea, serum creatinine, SGOT, SGPT remained within normal range in both groups during and after the completion of trial.
- On the basis of present clinical study it can be concluded that *Haritakyadi Kwatha* is more effective in management of *Pittaj Mutrakrichha* and possess more anti-microbial, anti-fungal, anti-parasitic activity in comparison to *Eladi Churna*.

REFERENCES

1. Ashtanga Hridaya, Vagbhata, Hindi commentary by Brahmanand Tripathi, Varanasi, Chaukhambha Surbharti Prakshana 2003.
2. Charaka, Charaka Samhita, Hindi commentary by Kashinath Shastri, Varanasi, Chaukhambha Bharti Academy 2011.
3. Harrison's Principles of Internal Medicine, 15th edition Vol-2 page no. 1620
4. Chakradatta of Shri Chakrapanidatta with Bhavartha Sandipani Hindi Commentary by Sh. Jagdishawar Prasad Tripathi, Chaukhambha Bharti Academy, 4th edition, 1976.
5. *Dravya Guna Vijyana* by Prof.P.V.Sharma, Chaukhambha Bharti Academy Data base on Medicinal Plants used in Ayurveda Volume 15 by P. C. BB Sharma, M.B. Yelne, T.J. Dennis, 2001-02.
6. Indian Medicinal plants (A compendium of 500 species) by Orient Longman, BB Vol-5, 1997

***Address for correspondence**

Dr. Swati
MD Scholar
P.G. Dept of Kayachikitsa,
R.G.G.P.G. Ayurvedic College &
Hospital, Himachal Pradesh,
Email:
thakurvedica93@gmail.com
Ph: 80548 50179

Cite this article as:

Swati, Thakur Sunil, Chaudhary Vijay. A Comparative Clinical Study to Evaluate the Effect of Haritakyadi Kwatha and Eladi Churna in the Management of Pittaj Mutrakrichha w.s.r. to Urinary Tract Infection. AYUSHDHARA, 2023;10(5):87-95.

<https://doi.org/10.47070/ayushdhara.v10i5.1396>

Source of support: Nil, Conflict of interest: None Declared

Disclaimer: AYUSHDHARA is solely owned by Mahadev Publications - A non-profit publications, dedicated to publish quality research, while every effort has been taken to verify the accuracy of the content published in our Journal. AYUSHDHARA cannot accept any responsibility or liability for the articles content which are published. The views expressed in articles by our contributing authors are not necessarily those of AYUSHDHARA editor or editorial board members.