

A COMPARATIVE STUDY OF EFFECT OF VAREE VIDARYADI KASHAYA AND BRUHATYADI KASHAYA IN PITTAJA MUTRAKRUCCHRA w.s.r to LOWER UTI

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ABSTRACT

PittajaMutrakrucchra is a pain dominant *Mutra ApravruttijaVyadha*, generally developed in women. Based on the symptoms it can be correlated with lower UTI. The study has been carried out to compare the efficacy of *VareeVidaryadikashayam* and *Bruhatyadikashayam* in *PittajaMutrakrucchra*. Total 60 lower UTI patients were selected for the study. Both modern and traditional parameters were used for the selection of the patients. The study was conducted for one month and the results were collected and statistically analyzed. Results revealed that both *kashayams* are effective in lower UTI or *PittajaMutrakrucchra*. *VareeVidaryadikashayam* is found very effective in relieving the symptoms like pain, burning sensation, ESR, and discolouration. *Bruhatyadikashayam* is found very effective in relieving the symptoms like tenderness, RBC in Urine, Pus cells and Frequency.

Keywords: *PittajaMutrakrucchra, VareeVidaryadikashayam, Bruhatyadikashayam, Norfloxacin.*

INTRODUCTION

Mutrakrucchra is one among the pain dominated disease mentioned in Ayurveda. It comes under *Mutra Apravruttija vyadhi*¹ like *Mutraghata, Asmari* etc. In many instances, the *Mutrakrucchra* and *Mutraghata* are overlapping. But both can be differentiated by their dominant symptom. *Vibandha* or the obstruction will be more in *Mutraghata* whereas pain or the *Krucchrata* will be more in *Mutrakrucchra*. Urinary Tract Infection or UTI can be correlated with the *Mutrakrucchra*.

The urinary tract can become infected with various bacteria, but the most common is E.Coli^{2,3} which is derived from the gastrointestinal tract. The most common presenting problem is cystitis with urethritis (Generally referred to a Urinary Tract Infection- UTI). But this is only part of a spectrum of severity. UTI is the term used to describe acute Urethritis and cystitis caused by micro-organisms. It is a common disorder accounting for 1-3% of consultation in general medical practice. The prevalence of UTI in women is

about 3% at the age of 20, increasing by about 1% in each subsequent decade.

All such factors show the gravity of the disease and compelled to go for a better remedial search from Ayurveda. In view of these facts, *Pittaja Mutrakrucchra* has been selected for the present study.

Pittaja Mutrakrucchra is a *Pitta* dominant disease. *Daha* (Burning Sensation) and *Sarakta Mutrata* are the characteristic signs of the disease. In Ayurvedic texts, the *Acharyas* have mentioned many special therapeutic measures for this disease along with formulations

Vata and *Pitta* are the involved *dosha* in *Pittaja Mutrakrucchra*. *Basti* is the seat of *Vata*. So, in most of the *Basti* related diseases, *Vata* is involved. *Apana vayu* causes the expulsion of *Mutra* and *Mala* from the body. *Prakruta vata* helps in the formation and expulsion of *Mutra* and *Mala*. When this *Apana vayu* gets vitiated and attains *Pratiloma gati*, *Basti vikaras* like *Mutrakrucchra* occur⁴. The *Vata prakopa* may be due to *nidana sevana*, *Dhatu kshaya* or *Margavarodha*. *Vata vaigunya* in the *koshta* produces *Mutra* and *Purisha nigrahana*⁵, *Vata* in *Guda* produces *Asmari*⁶ and *Vata* in *Pakwasaya* produces *Antrakujana*, *Mutrakrucchra*, *Nabhisula*, *Anaha*⁷ etc. During *Vegakala*, the excretion of *mutra* is initiated by *Apanavata* and during *Avegakala*, *apanavata* retains the urine in the bladder⁸. So, when the *Apana* is vitiated, frequent and difficult urination occurs based on *vegakala* and *avegakala*. *Pitta* has an important role in *Pittaja Mutrakrucchra* along with *Vata*. *Basti* is the *Vyaktasthana*. Here *Basti* means not only the bladder, but the whole urinary system must be considered. Regarding *rogamarga*, *Basti* comes under *Trimarma* which means one of the important three *Marma*. *Pittaja Mutrakrucchra* is a *Bastigata Mutraroga* and *Sandhi*, *Asthi* and *Marma* comes under *Madhyama rogamarga*. So *Pittaja Mutrakrucchra* belongs to *Madhyama Rogamarga*. Regarding *Sroto dushti prakara*, Due to *Sanga* of *Apanavata* in *srotas*, difficulty in micturition occurs and produces the *Pittaja Mutrakrucchra*.

Aim and Objectives

- To have literary review of *Pittaja Mutrakrucchra* and Lower UTI.
- To assess the efficacy of *Varee Vidaryadi kashayam* in relieving *Pittaja Mutrakrucchra*.
- To assess the efficacy of *Bruhatyadi kashayam* in relieving *Pittaja Mutrakrucchra*.
- To compare the efficacy of *Varee Vidaryadi kashayam* and *Bruhatyadi kashayam* in relieving *Pittaja Mutrakrucchra*.

Materials and Methods of study

Source of data: Patients diagnosed with *Pittaja Mutrakrucchra* of either sex were selected from OPD and IPD of MIAMS, Manipal, Krishna health Care, Pattambi and OP of AVP Agency, Chalissery.

Inclusion Criteria

- Patients having *Pratyatma lakshana* of *Pittaja Mutrakrucchra* such as *Peeta*⁹, *Sarakta*^{10,11}, *Saruja*^{12,13}, *Sadaaha*, *Krucchra* and *Muhur muhur Mutrapravrutti*¹⁴ with laboratory investigations showing Pus Cells in Urine.
- Age between 16 to 70 years, irrespective of sex, religion, caste etc.

Exclusion Criteria

- Patient suffering from systemic disorders that may interfere with the course of treatment.
- Complicated U.T.I (Catherisation, anatomic and functional abnormalities, immune suppression, renal disease, *renal calculi*, prostatitis or B.P.H, sexually transmitted diseases, DM etc.)
- Patients who are Pregnant

Investigations:

- Blood - Hb%, TC, DC, ESR, Serum creatinine and Blood urea tests
- Urine – Routine and Microscopic (pus cells, RBCs, epithelial cells, bacteria, crystals, casts)

Design of study: A single blind comparative clinical study with a Pre-Test and Post-Test design.

Intervention: 60 patients suffering from *Pittaja Mutrakrucchra* of either sex were selected. Among them, 20 patients were randomly grouped into Group A, Group B and Group C after the fulfillment of diagnostic criteria. Group A includes, 15ml *Varee*

Vidaryadi kashayam + 45ml water twice a day 1 hour before food for 1 month and follow up after 15 days of treatment. Group Bincludes, 15ml *Bruhatyadi kashayam*+45ml water twice a day 1 hour before food for 1 month and follow up after 15 days of treatment. Group Cincludes, Drug – Norfloxacin 400mg twice a day after food for 7 days and follow up after 7 days of treatment.

Subjective Parameters: Reduction in pain, burning sensation, tenderness, color and frequency.

Objective Parameters: Urine Analysis showing Absence or Decrease of Pus cells in the urine, Absence or decrease of RBCs in the urine and normal

ESR value. Patients will be observed for the symptomatic changes on 15th and 30th day. Follow up taken on 45th day. Results will be analyzed statistically.

Statistical Analysis: The information gathered regarding demographic data is shown in percentage. The scores of assessment criteria were analyzed statistically in form of mean score B.T (Before Treatment), A.T (After Treatment), difference of mean (B.T-A.T), S.D (Standard Deviation), S.E (Standard Error). Student's paired test was carried out. The results were considered significant or insignificant depending upon the value of P.

Table 1: Significance chart

Extremely significant	P<0.0001
Highly significant	P<0.001
Significant	P<0.05
Not significant	p> 0.05

Overall Effect of Therapy:

Patients were examined before and after the treatment for the presence or absence of symptoms and relief obtained in *Saruja mutrata*, *Sadaha Mutrata*, *Muhur Muhur Mutrapravrutti*, *Peeta varna*, RBC, Pus cells, ESR and *Sparsa Asahishnuta* as a result of the therapy will be calculated. Overall percentage of improvement

of each patient was calculated by the following formula;

$$\frac{\text{Total BT}-\text{Total AT}}{\text{Total BT}} \times 100$$

The result thus obtained from individual patient was categorized according to the following grades;

Table 2: Grading of improvement

Complete remission	100% relief in complaints
Marked improvement	75-99% relief in complaints
Moderate improvement	50-74% relief in complaints
Mild improvement	25-49% relief in complaints
No improvement	>25% relief in complaints

RESULT

Analysis Of Effect On Clinical Signs And Symptoms: The analysis was done by statistically using Graph Stat software.

Effect On *Saruja Mutra*/ Pain: For the symptom pain, group A, B and C showed extremely significant result. In Group A; 62.22% of relief is observed. Similarly,

relief obtained in Group B and Group C is 61.36%, 58.33% respectively.

Effect On *Sadaha Mutra*/ Burning Sensation: For the symptom *Daha* or burning sensation, Group A showed extremely significant result (65.22% of relief) in patients whereas Group C showed extremely significant result (50% of relief) in patients and Group

B showed very significant result (35.90% of relief) in patients.

Effect on *Sparsa Asahishnuta*/ Tenderness: For the symptom *Sparsa Asahishnuta*/ Tenderness, Group C showed extremely significant result (65% of relief) in patients while Group A showed significant result (45.45% of relief) and Group B showed moderately significant result (57.14% of relief) in patients.

Effect on *Peeta Mutra*/ Discolorations: Group B showed highly significant result in the reduction of the color of urine (56.67% of relief) in patients. Meantime, Group A showed highly significant result (63.33% of relief) in patients and Group C showed significant result (21.21% of relief) in patients.

Effect On RBC In Urine/ *Sarakta Mutrata*: Group A showed extremely significant result (60.53% of relief) in patients while Group C showed extremely significant result (75.68% relief) in patients and Group B showed highly significant result (74.19% results) in patients.

Effect on Pus Cells In Urine: Group C showed extremely significant result in the reduction of pus cell in (72.97% relief) patients. In the same time, Group A showed high significant result in the reduction of pus cells (51.22% of relief) in patients and Group B

showed significant result in the reduction of pus cells (48.89% of relief) in patients.

Effect On Frequency/ *Muhur Mutra*: Patients of Group B got extremely significant relief (82.76% relief) in the frequency of urination. Whereas in Group C, people got extremely significant relief (67.57%) and in Group A, patients got extremely significant relief (43.75% relief).

Effect On ESR: Group C got extremely significant reduction in the ESR (70% relief) whereas in Group B there is significant result in the reduction of ESR (35% relief) and Group A got moderate significant result in the reduction of ESR (36.3% relief).

Overall Effect of The Treatment

Group A: Among the 20 patients of Group A, 02 (10%) of patients had complete improvement. 3 (15%) patients had marked improvements. 9 (45%) patients had moderate improvement. 4 (20%) had mild improvement and 2(10%) had no improvements.

Group B: Among the 20 patients of Group B, 1 (5%) patient had complete improvement. 4 (20%) patients had marked improvement. 4 (20%) patients had moderate improvement. 7 (35%) had mild Improvement and 4 (20%) had no improvement.

Figure 1: Overall effect in Group A

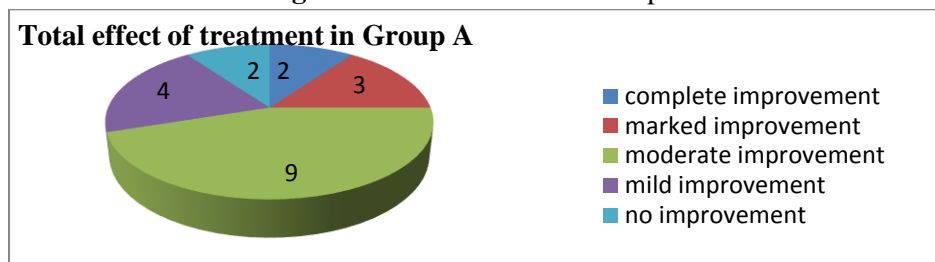
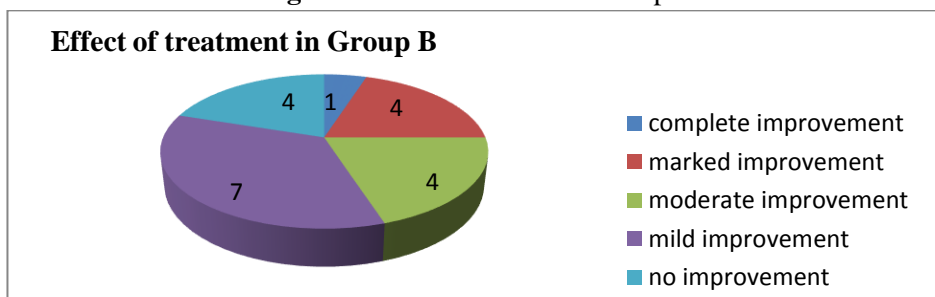
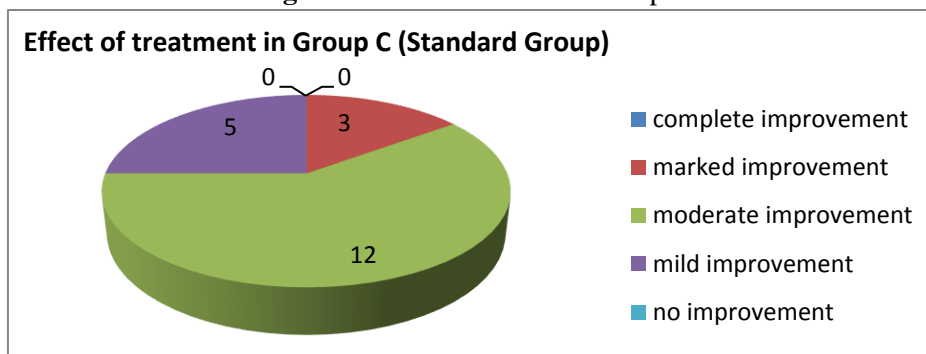


Figure 2: Overall effects in Group B



Group C: Among the 20 patients in Group C, 3(15%) patients had marked improvement. 12 (60%) patients had moderate improvement and 5 (25%) patients had mild improvement

Figure 3: Overall effects in Group C

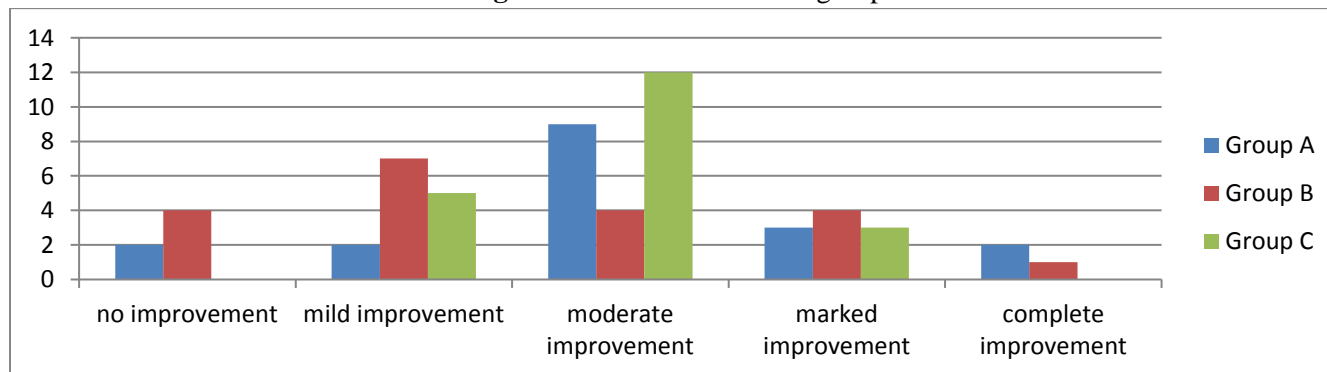


Overall Effect of Therapy in 3 Groups

Table 3: Overall effect of treatment

Sl. No	Improvement	Group A	Group B	Group C
1	No improvement ($\leq 25\%$)	2	4	0
2	Mild improvement (26-49%)	4	7	5
3	Moderate improvement (50-74%)	9	4	12
4	Marked improvement ($\geq 75\%$)	3	4	3
5	Complete improvement (100%)	2	1	0

Figure4: Overall effects of 3 groups



DISCUSSION

Varee Vidaryadi Kashayam: This yoga is mentioned in *Sahasrayoga Mutrakrucchraadhikara* specially indicated for *Pittaja Mutrakrucchra*. The ingredients of *Varee Vidaryadi Kashayam* are *Shatavari*¹⁵, *Vidari*¹⁶, *Gokshura*¹⁷, *Mustha*¹⁸ and *Sariba*¹⁹. All the ingredients except *Mustha* are *Pittahara* in nature. They eradicate *Sadaha* and *Sarakta Mutrapravrutti*.

The drugs like *Shatavari*, *Vidari*, *Gokshura* and *Sariba* are *Mutrala* in nature. They will increase the quantity of urine. This helps to reduce the concentration of urine and relieves the inflammation of the bladder and burning sensation. These *Mutrala* drugs help to relieve the *Krucchrena Muhur Muhur Mutrapravrutti*. The normal flow of urine will be restored. The color of the urine will become normal

because the concentration of urine will be reduced by the *mutrala* drugs. Essential oil in the *Sariba* is proved to have acting against E.Coli bacteria. It is proved that the chemical contents of *Sariba* have Urine antiseptic effect. This will help to reduce the infection in the bladder or Urinary tract.

Chemical constituents of *Shatavari* are diuretic and inhibit the bacterial growth. This will reduce the infection in the bladder. It is found that some chemical contents in the *Vidari* have spasmolytic effect. They will help to reduce the tenderness of the patient. The properties like *Madhura*, *Tikta rasa*, *Sitavirya*, *Madhura vipaka*, *Guru guna* etc will reduce *pitta*. Because of the *Pittahara*, *Mutrala*, anti-bacterial and spasmolytic effects of the drugs, *Pittaja Mutrakrucchra* are relived. As the quantity of the urine is increased, frequency will not reduce much, but the difficulty will be relived.

Bruhatyadi Kashayam: This yoga is mentioned in *Ashtanga Hrudayam* and *sahasrayogam*. It is indicated for all kind of *Mutrakrucchra*. The ingredients of *Bruhatyadi Kashayam* are; *Bruhati*²⁰, *Kantakari*²¹, *Salaparni*²², *Prisniparni* and *Gokshura*. *Bruhati*, *salaparni*, *Prisniparni* and *Gokshura* are *Mutrala* in nature. So, they produce more *Mutra* and this will reduce the concentration of urine. It helps to relive from the burning sensation and inflammation of the bladder. It also helps to attain normal color of urine by reducing the concentration of the urine. *Gokshura*, *Bruhati* and *Kantakari* are having *Vedanasthapana* property. This will help to get relief from the *Saruja Mutrapravrutti*. *Gokshura*, *Salaparni* and *Prisniparni* are *Anulomana* in nature. So, these drugs will correct the impaired *Apanavata* in the *Basti*. All the ingredients have either *Madhura* or *Tiktha rasa*, sometimes both together also. These *rasas* will reduce *Pitta*. *Madhura vipaka* also will reduce *Pitta*. *Gokshura* is having *madhura vipaka*. Drugs like *Bruhati*, *Salaparni*, *Prisniparni* and *Gokshura* possesses *Sothahara* property. This is helpful to reduce the *Basthi Sotha* in *Mutrakrucchra*. *Sita virya* of *Gokshura* is also helpful in reducing the *Pittaja Mutrakrucchra*. The aqueous extract of *Salaparni* is having anti-inflammatory, anti-bacterial

and anti-fungal activity. This helps to reduce the inflammation of bladder and presence of bacteria.

Norfloxacin: this inhibits the bacterial DNA synthesis and is bactericidal. At the molecular level, 3 specific events are attributed to norfloxacin in E.Coli cells;

1. Inhibition of the ATP-dependent DNA supercoiling reaction catalyzed by DNA gyrase.
2. Inhibition of the relaxation of supercoiled DNA
3. Promotion of double stranded DNA breakage.

Approximately 30% of the dose is eliminated unchanged in the urine, this producing high urinary concentration. So, the color will be deep yellow or dark yellow.

CONCLUSION

Following conclusions may be drawn from the study. *Pittaja Mutrakrucchra* is one among the *Mutra Apravruttijanya vyadhi*. *Vataja* and *Pittaja nidana* factors play an important role in the formation of *Pittaja Mutrakrucchra*. *Mutravaha Srotodushti nidanas* have also an important role in the formation of *Khavaigunya*. Although the *poorva rupas* are not mentioned for *Pittaja Mutrakrucchra*, the incomplete and vague forms of clinical manifestations can be considered as *poorvarupa*. Many classical references suggest that, *Basti* is not only the bladder. It includes the whole urinary system.

Vata-Pitta hara, *Dahaghna*, *Sulaghna*, *Sothahara*, *Mutrala*, *Rasayana*, *Krimighna* drugs have an important role in curing the *Pittaja Mutrakrucchra*. Intake of *Varee Vidaryadi kashayam* for 30 days gave good result in relieving the *Pittaja Mutrakrucchra*. *Bruhatyadi kashayam* is also found effective for *Pittaja Mutrakrucchra* when given for 30 days.

While observing the comparative study with the standard group (Group C- Norfloxacin), *Varee Vidaryadi kashayam* is found to be better effective than *Bruhatyadi kashayam* in the management of *Pittaja Mutrakrucchra*. *Varee Vidaryadi kashayam* gave better result than standard medicine in relieving the symptoms like *Sadaha Mutrata* and *Peeta Mutrata*. *Bruhatyadi kashayam* gave better result than standard medicine only in relieving the symptom *Peeta Mutrata*. Other symptoms have equal response

to all the 3 medicines i.e. *Varee vidaryadi kashayam*, *Bruhatyadi kashayam* and *Norfloxacin*.

Varee Vidaryadi kashayam gave more % of patients than *Bruhatyadi kashayam* in relieving the symptoms Pain, burning sensation, ESR and Colour of urine *Bruhatyadi kashayam* gave more % of patients than *Varee Vidaryadi kashayam* in relieving the symptoms like Tenderness, RBC in the urine, Pus cells in the urine and frequency. Considering the improvement in this period, one can get better response if same continued for longer duration. Hence further continuation of the medication is justified or else this study will pave way for more clinical trials in this regard with more prolonged course.

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