

Evidence based Management of Pittaj Mutrakruhra (Urinary Tract Infection) through Ayurvedic Medicine – A Single Case Report

Case Report

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Abstract

Introduction: Urinary tract or UTI infections, are extremely frequent and can have a negative impact on the individual's well-being and standard of life. The overall rate of UTI prevalence was 33.54%, with 66.78% of cases occurring in females and can be correlated to *Mutrakruhra*. **Aim:** To study the effect of *Vidariyadi Vati* on the management of *Pittaj Mutrakruhra*. **Case Report--** A 38 years old female came to OPD of Dr. D Y Patil College of Ayurved and Research Center resident of Pune, Maharashtra. She had *Peet Mutrapravrutti* (yellowish discoloration of urine), *Sadaha Mutrapravrutti* (burning sensation during micturition), *Sashul mutrapravrutti* (pain during/after micturition), *Muhur muhur Mutrapravrutti* at night (increased frequency of micturition at night). She was treated with *Vidariyadi Vati* 250 mg for first 5 days 4 times a day then 6th to 8th day 3 times a day and after that 9th to 12th day 2 times a day. Results after 12 days was found satisfactory. With no negative side effects, **Observation and Results :** *Vidariyadi Vati* act as *Vatpittashamak* and helps to destruct the *samprapti* of *Mutrakruhra*. *Vidariyadi Vati* was helpful to get rid of symptoms and prevents recurrence of symptoms in patient **Conclusion:** The treatment of *Pittaj Mutrakruhra* by Ayurvedic measures has been thoroughly examined and discussed here. Her progression is also shown here, step by step. This case study will encourage further research and aid in the development of an ayurvedic treatment protocol for *Pittaj Mutrakruhra*.

Keywords: *Mutrakruhra*, Case Report, Urinary Tract Infection, *Vidariyadi Vati*, Burning Micturition, Ayurveda Management.

Introduction

Health as well as quality of life of individuals are affected due to most common disease *Mutrakruhra*. *Mutrakruhra* can be correlated to Urinary Tract Infection. The overall prevalence rate of UTI was 33.54% of which 66.78% were females and 33.22% were males. High prevalence 2:1 was observed in females as compared to males (12). During whole life 50-80% of women have Urinary Tract Infection at least once. Globally more than 150 Million people are affected by UTI.

Acharya Charak and Acharya Sushrut have described about *Mutrakruhra*, it's classification, symptoms and treatment (1). There are 8 types of *Mutrakruhra* and *Pittaj Mutrakruhra* is one of them (1,3). The *lakshanas* of *Pittaj mutrakruhra* (Urinary Tract Infection) are *peet mutrapravrutti* means yellowish discoloration of urine, *Sadaha Mutrapravrutti* means burning sensation during micturition, *Sashul* means

painful micturition & *Muhur muhur Mutrapravrutti* means with increased frequency. *Sarkta Mutrapravrutti* means hematuria. A urinary tract infection causes a constellation of symptoms and indicators that correspond to the site and intensity of the infection (1,9). Poor hygienic conditions and environment, poverty and illiteracy also contribute to the increasing percentage of Urinary tract Infection. The studies have shown that one in 5 adult women experience a UTI at some point, confirming that it is an exceedingly common worldwide problem (3). E.coli is by far the commonest cause of uncomplicated community-acquired UTIs in both outpatient and inpatient settings. Other common uropathogens are *Enterococcus faecalis*, *Enterobacter species*, *Staphylococcus saprophyticus*, *Klebsiella pneumoniae*, *Proteus mirabilis* and *pseudomonas species* (2)

In modern science UTI is treated but the effect is temporary & patients come with recurrence for most of the time. In ayurveda *Pittaj mutrakruhra* (Urinary Tract Infection) can be treated effectively by using herbal medicines (1,3). Modern treatment of UTI comprises of antibiotics, antispasmodics, alkalisers which have their own side effects and limitations. We have many formulation in Ayurvedic classics which are giving good result, cost effective, can be taken by patient on OPD basis. There is need to find more effective, side effect free and economical treatment on

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Pittaj Mutrakruhha (Urinary Tract Infection). Thus, Vidariyadi vati had been used on Pittaj Mutrakruhha (Urinary Tract Infection).

Aim

To study the effect of Vidariyadi Vati on the management of Pittaj Mutrakruhha.

Objective

- To study effect of Vidariyadi Vati on Pittaj Mutrakruhha.
- To study the properties of content of Vidariyadi Vati.

Material and Methods

Place of study Kayachikitsa Department OPD, Dr. D. Y. Patil College of Ayurved and Research Centre, Pimpri, Pune.

Case Report

A 38 years old female patient with OPD number-02400005914 and UHID number-R266603 came to OPD of Dr. D Y Patil College of Ayurved and Research Center resident of Pune, Maharashtra. She was having Peet Mutrapravrutti (yellowish discoloration of urine), Sadaha Mutrapravrutti (burning sensation during micturition), Sashul mutrapravrutti (pain during/after micturition), Muhur muhur Mutrapravrutti at night (increased frequency of micturition at night) i.e.7 times Micturition at night. Patient was suffering from above symptoms since 2year intermittently i.e. once in three months In past she has taken many therapies but there was recurrency of disease. Neither history of major illness nor any past surgical history.

Table 1: Personal Information

Name -XYZ	Height-149cm	Prakruti-Pittapradhan
Age-38 yrs	Marital status-married	Sleep-disturbed due to micturition at night
Sex-Female	Appetite-Good	B.P.-130/80mmhg
Weight -63kg	Bala-Madhyam	Occupation -Job

Table 2: Ashtavidha Pariksha

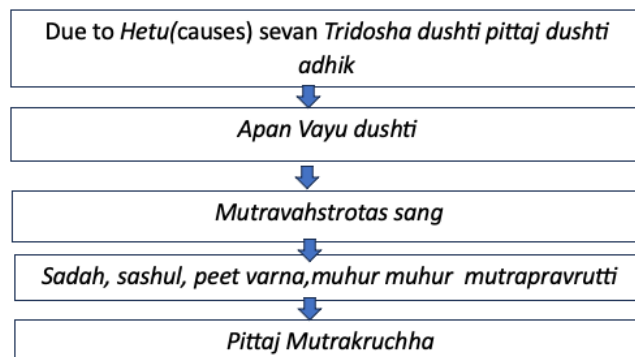
Jihwa-saam	Shabda-Speech clear
Nadi-81beats/min	Sparsh-Normal
Mala-Regular defecation	Druk-Normal
Mutra -peet varna,burning, painful micturition	Akruti-Madhyam

Nidanpanchak (Etiopathology & signs, Symptoms) (2, 3)

- Hetu (Causes): Abhishandi aahar, tikshna ushana drav aahar, mutranighrah
- Purvaroop: Ajirna, Aanah
- Roop (Symptoms): Sashulmutra pravrutti, mutradaha, muhurmuhur mutrapravrutti, peet varn mutrapravrutti.

- Upashay: Upashayatmak upaay (things to be done to get relief) such as drinking more amount of water. Take coriander powder 1 tea spoon and jirak powder 1 tea spoon mix in 1 litre of water, and drink the water daily.
- Samprapti:

Flow Chart 1



Investigations

Urine (Routine/Microscopic)-Randomly freshly voided sample is usually adequate for most tests. (10)

Preparation of Vidariyadi Vati (22)

Vidarikand churn (Pueraria Tuberosa Linn), Gokshur churn (Tribulus terrestris Linn), Madhuyashti churn (Glycyrrhiza glabra Linn), Nagkeshar churn (Mesua ferrea Linn), Loha bhasm (Magnetite) all are taken in Sam Pramana i.e 50 milligram each churn and vati is made of 250 milligram.

Chikitsa

Vidariyadi vati

- For first 5 days - 250 mg – Four times a day with water
- For day 6 to day 8– 250mg – Three times a day with water
- For day 9 to 12 – 250mg – Two times a day with water

Importance of Drugs

Vidari kand Churna (Pueraria Tuberosa Linn) -It is used in Mutrakruhha, daha, daurbhya.

It can be used as diuretic. It is used as carminative, nutritative, cardiotoxic. It can be used in yakrit roga. Rasa, Vipak – Madhur; Veerya – Sheeta. Due to Madhur rasa and sheet veerya, Vidari subsides Pitta dosha predominantly. The drug is having gamitva (affinity) towards mootravaha srotas. Vidari acts as potential drug to subside excess/ vitiated/prakupita pitta dosha within mootravaha srotas. Thus, Vidari can be enlisted as drug of choice to relive Pittaja mutrakruhha.

Gukshur churn (Tribulus terrestris Linn) -An infusion of fresh leaves and stem is used as an esteemed remedy for treating dysuria i.e. painful urination. The decoction is useful in irritation of urinary organs, it is given as remedy for incontinence of urine. Fruit powder is used in kidney and urinary troubles.(13) Rasa, Vipak – Madhur; Veerya – Sheeta. Due to Madhur rasa, Gokshur subsides Pitta and Vata dosha predominantly.

This is the drug of choice in any pathological condition of *Mutravaha strotas*. *Gokshur* acts as potential drug to subside excess/ vitiated/*prakupita pitta dosha* within *mutravaha strotas*. Thus *Gokshur* can be enlisted as drug of choice to relive *Pittaja mutrakruhra*. (13)

Madhuyashti churn (*Glycyrrhiza glabra* Linn)-The drug is used as laxative, diuretic, anticolic and herbal antacid. It is useful in dysuria. It is *Rasayan* (health promotive), *Jivaniya* (life promotive and rejuvenative), *balya* (body strengthened). *Rasa, Vipak – Madhur; Veerya – Sheeta*. Due to *Madhur rasa, Yashti* subsides *Pitta* and *Vata dosha* predominantly. This drug is enlisted under “*Rasayan*” category as the drug is having potential to rejuvenate and strengthen body cells. As *Yashtimadhu* subsides excess *pitta* in *mutravaha strotas* and strengthen urinary tract cells. (5)

Nagkeshar Churn (*Mesua ferrea* Linn)-The drug *Nagkeshar* is useful in several diseases and it is

specifically valued as *amapachna* . It can be used in *Mutrakruhra*, *mutradaha* and in *mutramargat raktapitta*. *Nagkeshar* having *rasa-kashay tikta, vipak -ushna, veerya -katu* due to this it is the potential drug to relieve any kind of bleeding from urethra, vagina and anus. This characteristic prove that the drug is good to treat excess *pitta/ raktadhatu* gat excess *pitta*. This is the potential drug to vitiated *pitta* in *mutravaha strotas*. (7)

Loha Bhasma (Magnetite) - *Loha Bhasm* is *Rasayana* (14), thus very good quality of *rasadi dhatu* are formed which in turn causes all *indriyas* to be perform in good way .All the *dhatu* gets all the ingredient in proper quantity thus healthy body is obtain. When there is no relief by using many treatment we should use *loha Bhasma*. When we use *Loha Bhasm* in *Mutrakruhra* we get relief. (8)

Table 3: Drugs in Vidariyadi Vati and their actions

Drugs	Botanical Name	Ras	Virya	Vipaka	DoshaKarma	Active content	Action
<i>Vidari Kand churn</i>	<i>Pueraria Tuberosa</i> Linn	<i>Madhur</i>	<i>Sita</i>	<i>Madhur</i>	<i>Vatapitta shamaka</i>	Puerarin	Antimicro bacterial Nephroprotective Anti inflammatory(17)
<i>Gokshur Churn</i>	<i>Tribulus terrestris</i> Linn	<i>Madhur</i>	<i>Sita</i>	<i>Madhur</i>	<i>Vatapitta shamaka</i>	Saponin	Antioxidative, Diuretic (18)
<i>Madhuyashti churn</i>	<i>Glycyrrhiza glabra</i> Linn	<i>Madhur</i>	<i>Sita</i>	<i>Madhur</i>	<i>Vatapitta shamaka</i>	Glycyrrhine	Antimicrobial, Anti inflammatory(19)
<i>Nagkeshar Churn</i>	<i>Mesua ferrea</i> Linn	<i>Kasaya, Tikta</i>	<i>Usna (isat)</i>	<i>Katu</i>	<i>Kaphapitta shamaka</i>	Coumarins	Analgesic, Anti inflammatory(20)
<i>Loha bhasma</i>	Magnetite	<i>Tikta</i>	<i>Ushna / Sita</i>	<i>Madhur</i>	<i>Tridosha Shaman</i>	Iron	Strengthens immune System (21)

Apathya

Mutrakruccha patients should avoid exercise, suppression of natural urges, oily food, *kapittha, jambu*, riding elephants or horses. The patient should also avoid taking incompatible meals, excessive or very less amount of food, betel nuts, fishes, *kalka* of sesame

seeds, sesame oil, mustard oil, masa or foods prepared from it, hot, unctuous and citrus edible.“(15)” While taking *Loha bhasma* things to be avoided are *kushmanda*, sesame oil, *rajika, rasona* (garlic), *madya* (liquor), *amla rasa*. (16)

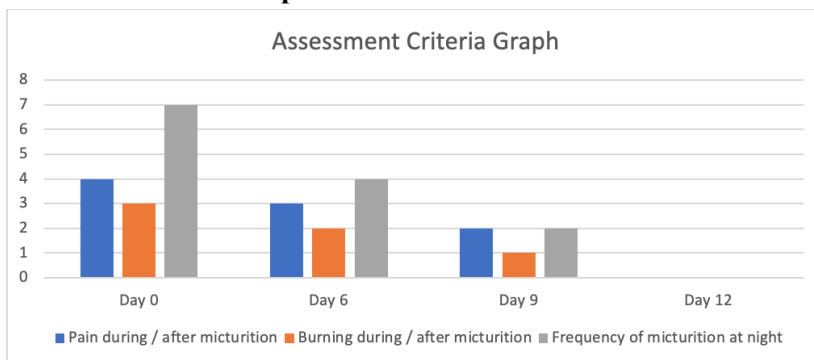
Table 4: Subjective criteria for Assessment

Criteria	Cured (0 Grade)	Mild (1 Grade)	Moderate (2 Grades)	Severe (3 Grades)
Pain during / after micturition	No any pain.	Referred pain at the tip of penis in males & at labia minora in females may/may not	Pain at tip of penis/ labia minora	Pain at tip of penis/ labia minora continuously.
Burning during / after micturition	No burning during micturition.	Burning during micturition sometimes	Burning after micturition upto 1 hour.	Burning after micturition beyond 1 hour.
Frequency of micturition at night	No micturition at night	2-3 times in night.	3-5 times in night.	>5 times in night

Table 5: Observation Follow up as per assessment criteria

Days	0	6 th	9 th	12 th
Pain during /after micturition	Severe	Moderate	Mild	No
Burning micturition	Severe	Moderate	Mild	No
Frequency of micturition at	7 Times	4 Times	2 Times	No micturition at night
Number of grades	14	9	5	0

Graph 1: Assessment Criteria



Objective Criteria

Table 6: Urine routine /Microscopic Reports

Days	0	6 th	9 th	12 th
Colour	Dark yellow	Pale yellow	Pale yellow	Pale yellow
Quantity	10ml	10ml	10ml	10ml
Appearance	Turbid	Cloudy	Slightly cloudy	Clear
Specific gravity	1.030	1.030	1.015	1.015
Reaction (ph)	Acidic	Acidic	Acidic	Acidic
Proteins	Absent	Absent	Absent	Nil
Glucose	Absent	Absent	Absent	Nil
Ketone bodies	Absent	Absent	Absent	Absent
Bile salts	Absent	Absent	Absent	Absent
Bile pigment	Absent	Absent	Absent	Absent
Pus cell	23-25	10-15	8-10	1-2
Epithelial cells	14-15	8-10	6-8	1-2
Others	Bacteria Present (more quantity)	Bacteria present (less quantity)	Bacteria occasionally present	Bacteria absent

Table 7: Grades according to Objective Criteria

Grades	Cured	Mild	Moderate	Severe
Colour	Pale yellow	Pale yellow	Pale Yellow	Dark yellow
Appearance	Normal	Slight cloudy	cloudy	Turbid
Pus cells	1-2	2-12	12-20	Above 20
Epithelial cells	1-2	2-10	10-15	Above 15
Bacteria	Absent	Absent/Occasionally present	Present (less quantity)	Present (more quantity)

Figure 1:Microscopic observation of urine slides

0 Day (16/2/24)	6th Day (21/2/24)	9th Day (24/2/24)	12th Day (27/2/24)
Urine slide showing A) Bacteria present in more quantity, B) Pus cells -23-25, C) Epithelial cells -14-15	Urine slide showing A) Pus cells 10-15 B) Bacteria Present in less quantity C) Epithelial cells 8-10	Urine slide showing A) Bacteria occasionally present B) Epithelial Cells -6-8 C) Pus cells -8-10	Urine Slide showing Bacteria - Absent, Pus cells -1-2 Epithelial Cells -1-2

Table 8: Observation Follow up as per Objective Criteria

Days	0	6th	9th	12th
Colour	Grade 3	Grade 2	Grade 1	Grade 0
Appearance of urine	Grade 3	Grade 2	Grade 1	Grade 0
Pus cells	Above 20	Grade 2	Grade 1	Grade 0
Epithelial cells	Above 12	Grade 2	Grade 1	Grade 0
Bacteria present/ absent	Grade 3	Grade 2	Grade 1	Grade 0

Results and Discussion

Within the 12-day follow-up period, the patient experienced relief from the above mentioned problems, including *sashulmutra pravrutti*, *mutradaha*, *muhurmuhur mutrapravrutti*, and *peet varn mutrapravrutti*. Urine samples were routinely examined under a microscope to look for pus cells, epithelial cells, germs, etc. After 12 days of treatment, these findings were completely gone. During the research, no adverse medication reaction was noted.

Vidari kand churn (*Pueraria Tuberosa* Linn) contains several bioactive constituents such as puerarin, genistein, daidzine, quercetin, irisolidone, biochanin A, etc. They have anticancer, anticonvulsant, antidiabetic, anti-inflammatory, antioxidant, anti-stress, antiulcerogenic, cardioprotective, hypolipidemic, hepatoprotective, immunomodulatory, nephroprotective, neuroprotective, and wound healing.(17) The *Vidari Kanda Churn* (*Pueraria Tuberosa* Linn) is considered *vatapittasamak* since it is a *madhurras* and *madhur vipak*. *Vidari* is *mutral*, *dahaprashman*, *balya*, *brumhana*, *rasayana*.(6)

The primary job of the kidneys is to filter *Rakta*, which preserves homeostasis and the body's proper electrolyte balance. Therefore, taking *Gokshura* which is *Shita Veerya* had been remedy for the kidneys for conditions like urinary tract infection (*Mutrakruchhra*). This medication is featured in the Charaka Samhita's list of 10 herbs, along with the (anti-inflammatory) *Shwayathuhara*, the diuretic (*Mootra Virechaneeya*), and the (antihelminthic) *Krimighna Mahakashaya*. *Goshur churn* (*Tribulus terrestris* Linn) causes *dipan of jatharagni* and *bhautikaagni*. *Gokshur* (*Tribulus terrestris* Linn) cause *pachan of aama* created by *pruthvi* and *jalmahabhutadhikya* this in turn decreased *Mutradsushti* in symptoms of *mutrakruchhra* (Urinary Tract Infection) and get relief (13) *Prabhav* of *Gokshur* is *Mutral*.

The active ingredients of *Madhuyashti* are glycyrrhizin, glycyrrhizic acid, and glycyrrhizinic acid. *Madhuyashti* possess anti-inflammatory, anti-ulcer, laxative, anti-microbial, anti-viral, immune booster, anti-pyretic, anti-oxidant, intellect promoting, emollient, and immunomodulator properties and thus promote disease-free long life.(19) *Madhuyashti* (*Glycyrrhiza glabra* Linn) is *mutravirajniya*, whatever *vaivarnya* (Discolouration of Urine) caused due to *pitta prakop* is destroyed by *madhuyashti*. thus normal colour to urine is obtain by using *madhuyashti*. due to *vatapittashamak* pain and burning sensation is relieved in *mutrakruchhra*. (5)

Nagkeshar had flavonoids, alkaloids, phenols, saponins, and other related phytoconstituents. While it

assess the antibacterial susceptibility, it was utilised to assess the anti-inflammatory activity. (20) The *tikta ras* in *Nagkeshar* (*Mesua ferrea* Linn) are what cause the *dipan pachan* of *ama*. Thus, in *mutravah strotas*, an agitated *pitta* in *mutramarg* may result in *shaman*, which in turn causes the destruction of *paka lakshan*. *Mutral karya* has the ability to cure uncomfortable micturition. (7)

Loha Bhasma is a nano iron particles based medicine used in Ayurveda. The human body needs iron for several essential processes, including the transportation of oxygen and electrons. Apart from this, iron is a component of many enzymes, and iron nanoparticles can actuate the human immune system(21). *Loha Bhasma* (Magnetite) -*Loha* is *rasayana*, thus very good quality of *rasadi dhatu* are formed which in turn causes all *indriyas* to be perform in good way. All the *dhatu* gets all the ingredient in proper quantity carried by *rakta dhatu* thus healthy body is obtain. (14)

Vidari kand Churn acts as *dahaprashmana*, *Gokshur churn* act as *Mutral*, *Madhuyashti* is *Mutravirajniya*, *Nagkeshar* is *mutral* and does *dipan pachan* of *ama*, *Loha bhasm* is *rasayan* collectively they contribute to form *Vidaryadi vati*. All drugs used in *Vidaryadi Vati* act as *Vatpittashamak* and helps to *distruct* the *samprapti* of *Mutrakruchhra*. Combining all ingredients *vidari*, *madhuyashti*, *gokshur*, *nagkeshar* are *vatpittashamak* gives relief from burning micturition, painful micturition, increase in frequency of micturition. *Loha bhasm* act as *rasayan* to make healthy and strong body. Thus, *Vidaryadi vati* was able to break the *samprapti* of *Mutrakruchhra* *Vidaryadi Vati* was helpful to get rid of symptoms of *Mutrakruchhra* and prevents recurrence of symptoms in patient.

Conclusion

Vidaryadi Vati is effective in reducing the symptoms of *Pittaj mutrakruchhra* in patient and she got satisfactory relief. Thus, *Vidaryadi vati* is effective in *Pittaj Mutrakruchhra*. The limitation of this study is that it is single case study and further work can be done in more number of cases for it's concrete conclusion.

Conflict of Interest: There are no conflict of interest.

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