



ISSN 2456-3110

Vol 5 · Issue 5

Sept-Oct 2020

Journal of
**Ayurveda and Integrated
Medical Sciences**

www.jaims.in

JAIMS

An International Journal for Researches in Ayurveda and Allied Sciences



Charaka
Publications

Indexed

Conceptual study of *Pittaja Mutrakrichhra* w.s.r. to Lower Urinary Tract Infection

Dr. Priyanka¹, Dr. Poornima B²

¹Post Graduate Scholar, ²Professor, Department of Roganidana, Ayurveda Mahavidyalaya, Hubballi, Karnataka, INDIA.

ABSTRACT

Pittaja Mutrakrichhra is one of the types of *Mutrakrichhra* and is well explained in classical texts of Ayurveda with its specific characters. In this disease due to consumption of *Ushna*, *Tikshna*, *Ruksha Ahara*, and *Mutra Vegadharana*, less water intake, maintaining poor hygiene leads to aggravation of *Pitta* followed by *Kapha* and *Vata* causes impairment in the functioning of *Basti*. The *Lakshanas* of *Pittaja Mutrakrichhra* are *Peetamutrata*, *Sadahamutrata*, *Krichhramutrata*, *Saraktamutrata*, *Muhurmuhur Mutra Pravrutti*. These *Lakshanas* have close resemblance with signs and symptoms of Lower UTI. Infections confined to Lower UTI commonly cause dysuria with burning micturation, frequency and urgency. Lower urinary tract infection includes cystitis and urethritis. These infections considered superficial (or mucosal) infections. Urinary tract infections are the second most common type of infection in the body, accounting for about 8.1 million visits to health care providers each year. Around 1% boys and 3% girls will develop UTI during childhood, and 50% of women will be treated for at least one UTI during their life time. Hence this attempt of present article made to define *Pittaja Mutrakrichhra* on scientific way w.s.r. LUTI.

Key words: *Pittaja Mutrakrichhra*, Lower Urinary Tract Infection (LUTI).

INTRODUCTION

Dosha, *Dhatu* and *Mala* are the building blocks of the body.^[1] For a healthy body one should have equilibrium of *Dosha* and *Dhatu*, in the same way proper and continuous excretion of *Mala* is of equal importance. Among *Trimala*, *Mutra* is responsible for *Bastipoorana* and *Kleda Vahanam*.^[2] When this physiology is hampered it leads to *Mutravaha Sroto Dusti Vikaras*. Amongst them *Pittaja Mutrakrichhra* is commonly occurring condition, in which subject

complaining the *Shulayukta*, *Raktayukta*, *Dahayukta*, and *Muhurmuhur Mutrapravrutti* etc.

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 micturation, *Mutra Vegadharana*, *Ati Vyavaya* and *Atigamana* on *Gajavaji*, leads to diseases of *Mutravahasrotodusti Vikaras*.

In present era these above said *Nidana's* are commonly observed due to working pattern or busy schedule or present life style of a person and indulging in such type of etiology causes vitiation of all the three *Doshas* which accumulates in urinary system and does the vitiation of *Mutra* and causes *Pittaja Mutrakrichhra*. It can be concurrent to lower UTI where dysuria, burning micturation and increased frequency of urination etc are most regular complaint. The clinical presentation of the *Pittaja Mutrakrichhra* can be correlated to lower urinary tract infection. Urinary tract infections are the second most common

Address for correspondence:

Dr. Priyanka

Post Graduate Scholar, Department of Roganidana, Ayurveda Mahavidyalaya, Hubballi, Karnataka, INDIA.

E-mail: pckallihal@gmail.com

Submission Date: 12/09/2020

Accepted Date: 16/10/2020

Access this article online

Quick Response Code



Website: www.jaims.in

Published by Maharshi Charaka Ayurveda Organization, Vijayapur, Karnataka (Regd) under the license CC-by-NC-SA

type of infection in the body, accounting for about 8.1 million visits to health care providers each year.^[3] And 50% of women will be treated for at least one UTI during their life time.^[4]

The symptoms of *Pittaja Mutrakrichhra* such as *Saruja/Kruchhra Mutrapravrutti*, *Sarakta Mutrata*, *Sadaha Mutrata*, *Muhurmuhu Mutrapravrutti*^[5] are coincide with the symptoms of lower urinary tract infection. Urinary tract infections such as abnormal colour of urine can be compared with *Sarakta/Sapeeta Mutrata*, burning sensation while micturation can be compared with *Sadaha Mutrapravrutti* and pain while micturation can be compared with *Krucchra Mutrapravrutti*, Frequency and urgency can be compared with *Muhurmuhu Mutrapravrutti* and suprapubic pain and strangury can be compared with *Saruja/Kruchhra Mutrata*.

Nidana - Pittaja Mutrakrichhra

The manifestation of any disease is described in five steps in Ayurveda these are *Nidana*, *Purvarupa*, *Rupa*, *Upashaya* and *Samprapti*. These help in proper diagnosis of disease.^[6]

1) Samanya Nidana^[7]

The specific *Nidana* for *Pittaja Mutrakrichhra* are not available in classics. So etiological factors which have mentioned for *Mutrakrichhra Roga* can be taken as *Nidana* of *Pittaja Mutrakrichhra*. The *Nidanas* which are responsible for *Mutravaha Srotodusti* can also take as *Samanya Nidana* for *Pittaja Mutrakrichhra*.

1. *Mutrato Udaka-Bhaksya-Strisevana* (indulges in sex or eating or drinking under the urge of micturation).
2. *Mutra Vega Dharana* (suppression of urge of micturation)
3. *Kshina* (weak or malnourished person)
4. *Abhighata* (injury to *Mutravahasrotas*)

2) Vishista Nidana^[8]

Aharaja Nidana

Rooksha Ahara Sevana, *Madhya Sevana*, *Tikshna Aushada Sevan*, *Anoopa Mamsa Sevana*, *Matsya*

Sevana, *Adysana*, *Ajeerna Bhojana*, *Katu Amla Lavana Sevana*.

Viharaja Nidana

Ativyayama, *Ati Vyavaya*, *Nityadhrutaprushtayana*, *Sandharana*, *Katiskanda Bhara Vahana*.^[9]

Sushruta and *Vagbhata* have not mentioned *Nidana* while *Madhava*, *Yogaratra* have mentioned similar *Nidanas* as that of *Charaka*.

Nidanas according to different Acharyas for Pittaja Mutrakrichhra.

Nidanas	Charaka ^[8]	Harita ^[10]	Madava ^[11]	Yogaratra ^[12]
<i>Tikshana Aushadha</i>	+	-	+	+
<i>Ruksha Ahara Sevana</i>	+	-	+	+
<i>Madya Sevana</i>	+	+	+	+
<i>Anupa Mamsa Sevana</i>	+	-	+	+
<i>Adyasana</i>	+	-	+	+
<i>Ajirna</i>	+	-	+	+
<i>Atikatu, Amla, Lavanarasa Sevana</i>	-	+	-	-
<i>Ati Vyayama</i>	+	+	+	+
<i>Ati Vyavaya</i>	+	-	+	+
<i>Nitya Dhruva Pruta Yana</i>	+	-	+	+
<i>Shrama</i>	-	+	-	-
<i>Goura Strisevana</i>	-	+	-	-

Samprapti

From *Nidana Sevana* until the appearance of *Vyadhi*, there is sequence of pathological changes taking place in the body, all these put collectively under the name of *Samprapti*. *Acharya Charak*^[13] has explained common *Samprapti* for *Pittaja Mutra Krichhra* which is as follows:

When respective *Doshas* vitiated by their own *Nidanas* and get lodged in the *Basti* and *Mutramarga* and produces *Samrodha*, *Sankocha*, and *Kshobha* in *Mutra Marga*, then *Pittaja Mutrakrichhra* is produced.^[13]

In *Kashyapa Samhita*,^[14] it is described that *Mutrakrichhra* is *Pittapradhana Tridoshaja Vyadhi*. Even *Acharya Harita* also said that *Mutrakrichhra* is *Pitta Pradhana Vyadhi* and he mentioned more etiological factors related to *Pitta Prakopa Nidanas*.

Samprapti Ghataka

- *Dosha : Pittapradhana Tridosha*
- *Dushya : Mutra, Rakta*
- *Srotas : Mutravaha, Raktavaha.*
- *Sroto Dusti Prakara : Sanga*
- *Agni : Jataragni And Dhatwagni*
- *Ama : Jataragni & Dhatwagni Mandya Janya*
- *Udbhavasthana: Pakwashaya*
- *Sanchara Sthana : Mutramarga*
- *Vyakt Stana : Mutramarga*
- *Rogamarga : Madyama*

Purvaroopo

These are the characteristics which appear before the actual manifestation of *Vyadhi* and are expressed in milder or incomplete form.

There is no textual reference regarding the *Purvaroopo* of *Pittaja Mutrakrichhra* but while *Chakrapani* says that *Lakshnas* of *Vyadhi* which are expressed in milder form are to be considered as *Purvarupa*. The different *Lakshanas* of *Pittaja*

Mutrakrichhra when expressed in milder form are to be considered as *Purvaroopo* of *Pittaja Mutrakrichhra*.

Rupa

The symptoms which occur after the complete manifestation of *Vyadhi*. These become evident in *Vyaktavasta* of the *Shatkriyakala*.

Rupa manifested in *Vyaktavasta* of *Pittaja Mutrakrichhra* are as follows:

Samanya Laxanas^[15]

Ati srusta - Adika mutrata.

Ati badhdha - Difficulty during mutra pravrutti.

Prakupita - Changes in physical, chemical properties of mutra.

Alpa alpa abheekshana - shoola yukta alpa pravrutti/ scanty urination.

Laxanas of Pittaja Mutrakrichhra^[16]

All *Acharyas* explained *Lakshanas*'s like *Peeta Mutrata*, *Sarakta Mutrata*, and *Saruja*, *Sadahayulka Mutra Pravrutti*. *Sushrutacharya* added *Haridra Mutrata* and *Daha* in *Mushka* and *Basti Pradesha*. *Atiushana Mutrata* is told by both *Sushrutacharya* and *Kashyapacharya*.

Sadhyasadhyata^[17]

Gada Nigraha is the only text which explains about the *Sadhyasadhyata* of the disease *Mutrakrichhra* in general. Both *Laghutrayis* and *Brihatrayis* do not mention about *Sadhyasadhyata* of this disease.

Upadravas

Upadravas of *Mutrakrichhra* in general are explained by *Acharya Kasyapa*.^[18]

Those are as: *Karshya*, *Arati*, *Aruchi*, *Anavasthiti*, *Thrishna*, *Shoola*, *Vishada*.

Upashaya

Upashaya means which gives pleasure to the person by the use of medicine, diets, and regimens. Their action may directly against the cause or the disease. Below mentioned *Aushada*, *Ahara*, *Vihara* are to be considered as beneficial for the *Pittaja Mutrakrichhra*.

Aushada^[19]	Ahara^[19]	Vihara^[19]
<i>Shatavari Kwatha, Kharjurdi Churna, Chandrakala Rasa, Kushakasadi Kwatha.</i>	<i>Kushamanda, Kadalisara, Amalaka, Narikelajala, Draksaha, Takra, Dadhi. Jangala Pashu Pakshi Mamsa.</i>	<i>Seka, Avagaha, Pradeha</i> Regimens prescribed in <i>Grishma Rutu.</i>

Apathya^[20]

Apathya is unwholesome food or regimens which adversely affect the body and mind. The following *Ahara* and *Vihara* are *Apathya* in *Pittaja Mutrakrichhra*.

Ahara: Food article having *Kashaya, Amla Rasa, Tikshna, Shuska, Rukshaahara's. Sangrahi and Vidhahi Ahara. Madhya Sevana, Pishtanna, Vatarka, Kharjura, Kapitta, Jambu, Tambula, Matsya, Hingu Tila, Sarshapa Taila Bharjita Lavana and Ardrak, Pinyaka.*

Vihara: *Ati Vyayama, Mutra Vegadharana, Ativyavaya, Ativata Atapa, Shrama, Gajavaji Yana.*

Lower Urinary Tract Infection**Definition**

Urinary Tract Infection is a common, distressing and occasionally life threatening condition. UTI is defined as multiplication of organisms in the urinary tract.^[21] Acute infections of the urinary tract infection fall into two general anatomic categories: lower tract infection (Urethritis and Cystitis) and upper tract infection (Pyelonephritis, Prostatitis). Infections of the urethra and bladder are often considered superficial (or mucosal) infections. From microbiologic perspective, urinary tract infection exists when pathogenic microorganisms are detected in the urine, urethra, bladder. In most instances, growth of $\geq 10^5$ organisms per milliliter from a properly collected midstream urine sample indicates infection.^[22]

Etiology^[23]

Many microorganisms can infect the urinary tract, but by far the most common agents are the gram negative bacilli.

Escherichia coli cause ~80% of acute infections in patients without catheters, urologic abnormalities, or calculi. Other gram negative rods, especially *Proteus* and *Klebsiella* spp, accounts for a smaller proportion of uncomplicated infections. Gram – positive cocci play a lesser role in UTIs.

Pathogenesis

In the vast majority of UTI's bacteria gain access to the bladder via the urethra. The occurrence and course of a UTI is influenced by the integrity of the host defence and by bacterial virulence factors. Disruption of the highly specialized transitional cell epithelium which lines the urinary tract. Incomplete bladder emptying, anatomical abnormalities, and the presence of foreign body, such as a urinary catheter, these contribute to disruption of the host defence and increase the likelihood of infection. Sexual intercourse, use of condoms, and use of spermicides all increase the risk. Bacterial characteristics that determine their ability to cause infection include specific mechanisms to adhere to the uroepithelium ('pilli' or 'fimbrias' in the case of certain *E.coli*), or adaptations allowing them to colonize foreign surfaces, such as a urinary catheter and subsequently cause infection.^[24]

Clinical Features

The clinical features depend on whether the infection involves the upper or lower urinary tract. Irritative voiding symptoms are more common in lower tract infection.

Common symptoms of lower UTI^[25]

- Severe dysuria, worse towards the end of or immediately after micturition.
- Abrupt onset of frequency of micturition.
- Suprapubic pain during and after voiding.
- Intense desire to pass more urine after micturition, due to spasm of the inflamed bladder wall (urgency).
- Microscopic or visible haematuria.
- Urine that may appear cloudy and have an unpleasant odour.

Diagnosis^[26]

Microscopic examination of urine is the crucial first step in confirming UTI. A properly collected early morning sample of urine is ideal. Random samples may also be used for regular testing. Pyuria is defined as presence of >5 WBC's/hpf in a centrifuged urine sample. Pyuria indicates either infection with unusual bacteria.

The gold standard for diagnosis of UTI is urine culture. Growth of 10⁵ colony forming units of single strain signifies a positive culture. Rapid methods of detection of bacteriuria have been developed as alternatives to standard urine cultures. These methods detect bacterial growth by photometry or bioluminescence and provide results in 1 to 2 hours.

Prophylactic measures to be adopted in UTI

- Fluid intake of at least 2 litres /day.
- Regular complete emptying of bladder.
- If vesico-ureteric reflux is present, practice double micturition (empty the bladder then attempt micturition 10-15 later.)
- Good personal hygiene.
- Emptying of the bladder before and after sexual intercourse.
- Cranberry juice may be effective.

DISCUSSION

In classics 8 types of *Mutrakrichhra* has been explained among them *Pittaja Mutrakrichhra* is having its own importance. The *Laxanas* are *Shoolayukta*, *Raktayukta/Peetayukta*, *Dahayukta*, and *Muhurmuhu Mutra Pravrutti*. *Pittaja Mutrakrichhra* can be correlated to lower UTI in modern science. LUTI refers to inflammation of urethra and bladder produce symptoms like haematuria, painfull urination with burning sensation, frequent micturation.

In the present era due to consuming excess spicy, fried and junk foods leads to increase incidence of *Pittaja Mutrakrichhra*. And in working people absurd life style modification, abnormally changed food and personal habits and supressing the urge of

micturation are said to be the etiological factors for the manifestation of this disease.

Pittaja Mutrakrichhra Nidana's like *Ativyayama*, *Ativyavaya*, travelling on *Ashwa*, *Shrama* vitiates *Vata Dosh* and *Tikshnaushadha Sevana*, *Madhya Sevana*, *Katu Amla Lavanarasa Pradhana Ahara Sevana*, *Kati Skandha Ati Dharana* aggravate *Pitta Dosh* and *Samanya Mutravaha Sroto Dusti Karanas* are also responsible for production of *Kha-Vaigunya* in *Basti* leads to *Pittaja Mutrakrichhra*. In modern science microorganisms are considered to be sole cause of UTI. Though Ayurvedic classical text contains references of *Krimi* causation of *Mutrakrichhra* by them has not been mentioned. The modern theories of pathogenesis suggest that bacteria gain access to bladder via urethra. From an Ayurvedic point of view even in *Agantujakaranas Doshaprakopa* is the main cause for the *Vyadhi*.

Most of *Nidana* of *Pittaja Mutrakrichhra* causes vitiation of *Pitta* and *Vata Dosh*. *Pitta* spreads in to general circulation with the help of *Vyana Vayu* or *Rasa*. Then aggravated *Pachaka Pitta* and *Samana Vayu* leads to *Dhavagnimandyta*. As a result *Kleda* is formed in excess. *Dushita Kleda* inturn affects the quantity of *Mutra* and disturbs the concentration of urine. Vitiated *Pitta* results in *Haridra Mutra*. Vitiated *Pitta* along with *Pratiloma Gati* of *Apana Vayu* obstructs the urinary pathway resulting in burning type of pain during micturation.

The *Laxanas* like *Daha*, *Peeta* and *Raktavarna Mutra Pravrutti* or *Haridra Varna* indicative of *Pitta Prakopa*. It indicates increased concentration of urine. *Sarakta Mutra* indicates high content of RBC's in urine.

Lower Urinary Tract Infection are often considered as superficial infections and are common in female patients. while *Osha*, *Chosa*, *Daha* are the *Nantamaja Vikaras* of *Pitta*. So, it can be inferred that, pain is burning type in *Pittaja Mutrakrichhra*. The *Ruja* referred in this variety explains the result and effect of *Pitta Dusti* (inflammation). *Daha* is *Pitta Prakopa Laxana* and more accentuated in *Pittaja Mutrakrichhra*. *Muhurmuhu Mutrapravrutti* is due to inflammation of the bladder wall. It leads to reduction in bladder

capacity and stimulation of the stretch receptors in bladder wall.

Abrupt onset of dysuria (includes pain, burning, and strangury), increased frequency, Urgency, suprapubic pain and pyuria are the symptoms of lower UTI i.e. cystitis and urethritis. Dysuria is the painful & difficult urination that is usually caused by inflammation. Pain occurring at the start of urination may indicate urethral pathology, if pain occurs at the end of the micturation is usually of bladder origin and accompanied by spasm of the pelvic musculature. Increased frequency of micturition is due to decreased bladder capacity with resultant decrease in the volume of urine per voiding and irritation of inflamed bladder. Urgency is strong and sudden impulse to void. The sensation may be so strong enough to overcome sphincter control. Urgency is main symptom present in cystitis and absent in urethritis which distinguishes it from cystitis.

Pyuria is presence of pus cells in urine. Urine pus cells diagnostic of urinary tract infection are living or dead leukocytes (white blood cells), specifically neutrophils, which attack the bacteria and prevent infection. Urine culture and antimicrobial susceptibility testing be performed for any patient with a suspected UTI.

Pittaja Mutrakrichhra is a *Pakwashaya Samutta Vyadhi*. *Basti* is one of the three *Marmas* which is affected in *Mutrakrichhra* so, the disease is said to be of *Madhyama Roga Marga*.

Upashaya is one which relieves the symptoms. For *Pittaja Mutrakrichhra* *Abhyanga* and *Avagaha*, *Pradeha* are the *Viharaja Upashaya*. *Snehana* and *Swedana* in the form of *Abhyanga* and *Avagaha*. *Avagaha Sweda* is a *Drava Sweda* which specially indicated in *Pitta Samsruta Vata*, keeping in view of local lesions and inflammation. *Sheeta Sheka* and *Sheeta Pradeha* and *Greeshma Vidhi* is described in *Pittaja Mutrakricchhra* in order to pacify the *Ushna*, *Tikshna Guna* of *Pitta* which is responsible for *Sadaha*, *Sapeeta* and *Sarakta Mutrapravrutti*. *Greeshma Vidhi* includes avoiding *Vyayama*, *Atapa*, *Madya* etc. and *Shita*, *Madura*, *Snighda Ahara Sevana*. In *Shamana Aushadi* of *Pittaja Mutrakrichhra*, *Truna Panchmoola*,

Shatavari Kwata, *Kharjuradi Churna* along with *Anupana* like *Sharkara*, *Madhu*, and *Ghritha* are most commonly used. All these drugs have *Mutrala*, *Dahanashaka*, *Shoolahara*, *Pittahara* properties by the virtue of *Madhura* and *Kashaya Rasa*, *Shita Virya* and *Madhura Vipaka*.

Anupshaya is one which aggravates the symptoms. For *Pittaja Mutrakrichhra* measures causing alleviation and vitiation of *Pitta* can be considered as *Upashaya* and *Anupashaya*.

By avoiding *Apathya (Nidana)* and following *Pathya* mentioned in *Pittaja Mutrakrichhra* prevents disease itself and further complications.

CONCLUSION

Analysis of textual references regarding etiology of *Mutrakrichhra* discloses the fact that *Pittakara* and *Vatakara Nidana* play a significant role in manifestation of *Pittaja Mutrakrichhra*. It is concluded that any abnormalities in *Vyana Vayu*, *Samana Vayu*, *Pachaka Pitta* and *Apana Vayu* due to *Aharaja*, *Viharaja*, and bacterial factors resulting in *Pittaja Mutrakrichhra*. *Pittaja Mutrakrichhra* when viewed under the lens of conventional medicine can be correlated to LUTI as both diseases and symptoms are similar.

REFERENCES

1. Editor Yadavji Trikamji, Susuruta Samhita with Nibandhasangraha commentary of shri Dalhanacharya, Sutrasthana, chapter 15, verse 3, Chaukambha Surbharati Prakashan, varanasi, reprint: 2014, p-67.
2. Editor Yadavji Trikamji, Susuruta Samhita with Nibandhasangraha Commentary of shri Dalhanacharya, Sutrasthana, chapter 15, verse 4\2, Chaukambha Surbharati Prakashan varanasi, reprint: 2014, p-68.
3. www.urologic.niddk.gov.in retrieved on 13\6\2020 at 3:00pm.
4. Editors: Yash pal munjal, David A warrell, Timothy M.Cox, Jonh D. firth, Oxford Text book of medicine, 5th edition, vol 3, Oxford university press publication, p-4105.
5. Editor Yadavji Trikamji, Charak samhita with Ayurveda Dipika Commentary of Chakrapanidatta, Chikitsa Sthana, chapter 26, verse 34, Chaukambha Surbharati Prakashan, reprint: 2014, p-599.
6. Editor Dr. Brahmananda Tripathi, Madava Nidanam of Sri Madavakara with Madhukosa Commentary by Vijayaraksita &

- Srikantadatta, chapter 1, verse 4, Chaukambha Surbharati Prakashan, Reprint: 2014, p-11.
7. Editor Vd. Haris Chandra Singh Kushwaha, Charak Samhita, Ayurveda Dipika's Ayushi hindi Commentry, Vimana Sthana, chapter 5, verse 20, Chaukambha Surbhart Orientallia, reprint: 2011, p-634.
 8. Editor Yadavji Trikamji, Charak Samhita with Ayurveda Dipika Commentary of Chakrapanidatta, Chikitsa Sthana, chapter 26, verse 32, Chaukambha Surbharati Prakashan, reprint: 2014, p-599.
 9. Kashyapa Samhita, Hindi commentary by Hemaraj Sharma, Chikitsa Sthana, chapter 10, verse 1, Chaukhambha Sanskrit Sanstana, Varanasi; reprint: 2014, p-120.
 10. Harita Samhita with Nirmala Commentary, Jaymini Pandaey, chapter 30, edition: 2010, Chaukhambha Krishnadas Academy, p- 472.
 11. Editor Dr. Brahmananda Tripathi, Madava Nidanam of Sri Madavakara with Madhukosa Commentary by Vijayaraksita & Srikantadatta, chapter 30, verse 1-2, Chaukambha Surbharati Prakashan, Reprint: 2014, p-621.
 12. Editor: Shri Brahmashankar Shastri, Yoga ratnakar, Uttarardha with Vidyotini hindi Commentary by Vaidya Shree Lakshmiapati Shastri, Mutrakruchhra Nidana, verse 1, Chaukambha Sanskrit Samstana, Varanasi; reprint:1993, p- 50.
 13. Editor Yadavji Trikamji, Charak Samhita with Ayurveda Dipika Commentary of Chakrapanidatta, Chikitsa Sthana, chapter 26, verse 33, Chaukambha Surbharati Prakashan, reprint: 2014, p-599.
 14. Kashyapa Samhita, Hindi Commentary Hemaraj sharma, Chikitsa Sthana, chapter 10, verse 1, Chaukhambha Sanskrit Sanstana, Varanasi; reprint: 2014, p-120.
 15. Editor Vd. Haris Hhandra Singh Kushwaha, Charak Samhita, Ayurveda Dipika's Ayushi hindi commentry, Vimana Sthana, chapter 5, verse 8, chaukambha Surbharti Orientallia, reprint: 2011, p-634.
 16. Editor Yadavji Trikamji, Charak Samhita with Ayurveda Dipika Commentary of Chakrapanidatta, Chikitsa Sthana, chapter 26, verse 34, Chaukambha Surbharati Prakashan, reprint: 2014, p-599.
 17. Editor: Sri Ganga Sahaya Pandeya, Gadanigraha of Sri Vaidya Sodhala with the Vidyotini Hindi Commentary, Part –II Kayachikitsa khanda, Mutra chikitsa Nidan Adyaya, verse 11, chaukhambha Sanskrit Sanstana, Varanasi; Reprint:2005, p- 627.
 18. Kashyapa samhita, Hindi Commentary by Satypala Bhisagacharya, Chikitsa Sthana, chapter 7, verse 23, Chaukhambha Sanskrit Sanstana, Varanasi; reprint: 2006, p- 120.
 19. Urology in Ayurveda by Dr. V.B. Athvale, 4th chapter, Mutrakrichhra Adyaya, Chaukhambha Sanskrit Pratishthan Delhi, p-46,47.
 20. Editor: Prof. Siddhi Nandan Mishra, Bhaishajya Ratnavali of Kaviraj Govind Das Sen, Mutrakrichhrogadikara, 34th chapter, verse 68, Chaukhambha Sanskrit Sanstana, Varanasi, p-682.
 21. Davidson, Davidson's Principles and practice of Medicine, 17th chapter, Elsevier publications, 20th edition, p-467
 22. Editors: Longo. Dan L, Fauci.Anthony S Kasper, Dennis L, Hauser. Stephen L; Harrison, Harisson's Principles of Internal Medicine, vol-2, chapter 282, 17th edition, Mc Graw Hill Scompaines, p-1820.
 23. Editors: Longo. Dan L, Fauci.Anthony S Kasper, Dennis L, Hauser. Stephen L; Harrison, Harisson's Principles of internal Medicine, vol-2, chapter 282, 17th edition, Mc Graw Hill compaines, p-1820.
 24. Editors Yash pal munjal, David A Warrell, Timothy M. Cox, John D. firth, Oxoford Text book of medicine, Vol 3, chapter 21, 5th edition, Oxoford Univwersity Press publication. P- 4105.
 25. Davidson, Davidson's Principles and practice of medicine, 17th chapter, Elsevier publications, 20th edition, p-469
 26. Editor in chief Y P Munjal, API Text Book of Medicine, Vol-2, 9th edition, Jaypee Brothers medical Publishers (p) Ltd, p- 1317.

How to cite this article: Dr. Priyanka, Dr. Poornima B. Conceptual study of Pittaja Mutrakrichhra w.s.r. to Lower Urinary Tract Infection. J Ayurveda Integr Med Sci 2020;5:379-385.

Source of Support: Nil, **Conflict of Interest:** None declared.

Copyright © 2020 The Author(s); Published by Maharshi Charaka Ayurveda Organization, Vijayapur (Regd). This is an open-access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.