IAMJ

INTERNATIONAL AYURVEDIC MEDICAL JOURNAL

Research Article ISSN: 2320-5091 Impact Factor: 6.719

CLINICAL STUDY OF HARITAKYADI KWATH IN PITTAJA MUTRAKRICHHA(UTI IN PREGNANCY)

Akshay kumar

Assistant Professor, LBS MAC Bilaspur(Haryana)

Corresponding Author: akshaythebosssarswat@gmail.com

https://doi.org/10.46607/iamj0211052023

(Published Online: May 2023)

Open Access

Article Received: 06/04/2023 - **Peer Reviewed:** 26/04/2023 - **Accepted for Publication:** 09/05/2023.

Check for updates

ABSTRACT

Ayurveda is referred to as a holistic system of medicine and has been integrated into general wellness applications in several countries. It deals with managing health by maintaining the equilibrium of physiological constituents. Features of *Pittaja Mutrakrichha* show a close resemblance to UTIs as described in modern texts, especially with lower urinary tract infections**.** UTI is an infection in any part of the urinary system which includes the kidneys, bladder, ureters, and urethra. It is one of the most commonest and most recurrent diseases encountered in routine practice that encompasses both asymptomatic microbial colonization of the urine and symptomatic infection with microbial invasion and inflammation of the urinary tract. *Haritakyadi Kwath* has been chosen to see the effect on the patients of *Pittaja Mutrakrichha* (UTI in pregnancy). *Haritakyadi Kwath* consists of 5 constituents namely *Haritaki, gokshur, amaltash, pashanbhed, and yavasa.* In this Clinical study, a total of 32 patients are selected out of which 25 patients (78%) are cured, 1 patient (3.1%) had moderate improvement, 1 patient (3.1%) had mild improvement, and 5 patients (15.6%) had no improvement. The probable mode of action of *Haritakyadi Kwath in Pittaja Mutrakrichha* may be due to *Madhura, Tikta and Kashaya Rasa, Laghu and Snigdha Guna, Sheeta Virya, Madhura Vipaka, and Tridoshahara properties.* On the basis of a clinical study, it can be concluded that *Haritakyadi* kwath is efficient in producing significant improvement in patients of *Pittaja Mutrakrichha.*

Keywords: UTI, pittaj mutrkrichha, Haritakyadi kwath, Ayurveda**.**

INTRODUCTION

Mutrakrichha is a disorder of *Mutravahasrotas*, which includes those forms of urinary disorders where *Mutrakrichhra*[1] (difficulty in micturition) is the cardinal feature. Most of the urinary disorders[2] are described in the form of eight types of *Mutrakrichha*, thirteen types of *Mutraghatas*, four types of *Ashmari*, and twenty types of *Pramehas* in *Ayurveda*. *Vitiated Pitta* and *Pratiloma Gati* of *Apana Vayu* are considered to be the two major factors for the pathogenesis of the disease "*Mutrakrichha"* in classical *Ayurvedic* texts[3]. While analysing the symptomatology of *Mutrakrichha*, it appears that various stages of acute and chronic urinary tract infections come under this heading. It has been described as a separate disease in *Ayurvedic* literature[4]. Urinary Tract Infection is a microbial infection that involves the kidneys, ureter, bladder, or urethra. It encompasses both asymptomatic microbial colonization of the urine and symptomatic infection with microbial invasion and inflammation of the urinary tract[5]. *Mutrakrichha* is commonly caused due to infection. Dietary habits of taking spicy, sour, and cold food items are also attributed as causative factors. Dehydration, urolithiasis, trauma, and atonicity of the bladder are the contributory factors[6]. UTI is the most common bacterial infection encountered in general practice and accounts for 1-3% of consultations. Up to 50% of women have a UTI at some time in their entire life. Most commonly the causative organism is Escherichia coli which is observed in about 80% of patients suffering from urinary tract infection[7]. The prevalence of UTI in women is about 3% at the age of 20, increasing by about 1% in each subsequent decade. In males, UTI is comparatively uncommon[8]. Urinary tract infections are the second most common type of infection after upper respiratory tract infections and may lead to the development of serious complications like chronic pyelonephritis and chronic renal failure. These infections may cause common complications during pregnancy, in diabetes, polycystic renal disease, and in other immune-compromised patients[9]. UTIs are the leading cause of gram-negative sepsis in hospitalized patients. With the introduction of antibiotics in modern medicine it has become easier to treat urinary tract infections but still, chances of reinfection and relapse are major problems. Simultaneously, the development of resistance is also a major issue. Urinary tract infections also keep on increasing with repeated indiscriminate use of antibiotics. Urinary tract infections can be safely and effectively treated with herbal treatment with no side effects. The majority of drugs are there in Ayurveda that act as urinary antiseptics, prevent adhesions, and bladder protection, and also take good care of kidneys. An ideal drug is that which breaks the pathogenesis of the disease without producing any side effects. It is the total effect of all the ingredients that play a vital role in the management of the disease. So, the drugs having the properties of *Dosha Shamanam, Srotoshodhna, Mutra virechaniya, and Mutra-Visodhaniya* are indicated in *Mutrakrichha Roga*[10]. The ingredients of trial drugs that are *Haritakyadi Kwatha* possess most of the above said properties which are desirable in an ideal *Mutrakrichha* drug. Hence *Haritakyadi Kwatha*[11] have been selected to evaluate their efficacy in *Mutrakrichha.*

DISCUSSION

Vitarka (ability to discuss based on *Shastra*) is one of the six features needed in a good scholar *(Ch. Su. 9/21).* So, any research should be analysed and tested before drawing conclusions based on factual and evidenced-based reasoning for its wider acceptability and recognition. Thus, discussion is an important feature of any research. Now it is important to mention that in addition to the preventive approach as indicated above also needs a suitable, safe, and effective remedy for urinary tract infection. Although a large number of antibiotics and urinary antiseptics are available in modern medicine, they have their own limitations like side effects, recurrence, and resistance[12].

DISCUSSION ON THE SELECTION OF THE PROBLEM

The present work was selected keeping in mind the following points:

- UTI in pregnancy is a very common problem and is ignored by females due to the absence of symptoms.
- Bacteriuria is typically present at the time of the first prenatal visit, and if an initial positive urine culture is treated, fewer than 1% of women develop a urinary infection.
- If asymptomatic bacteriuria is not treated, aprox. 25% of infected women will develop a symptomatic infection during pregnancy.
- The use of antibiotics during pregnancy may develop many side effects like fetal abnormalities 59.7%, followed by diarrhea 41.8%, and also develop gastric irritation, and indigestion by destroying commensalism13.
- Antibiotic resistance has been on the rise globally due to antibiotics being prescribed unnecessarily or inappropriately.

Therefore, the study "An Experimental and Clinical study to evaluate the effect of *HARITAKYADI KWATH* on *Pittaja Mutrakrichha* (UTI in Pregnancy) w.s.r. to Nidan and Deha Prakriti" entitled was undertaken.

DISCUSSION ON DISEASE

- Urinary tract infection may be asymptomatic (subclinical infection) or symptomatic (disease). Thus, the term UTI encompasses a variety of clinical entities, including asymptomatic bacteriuria, cystitis, prostatitis, and pyelonephritis.[14]
- During pregnancy, urinary tract changes predispose women to infection. Ureteral dilation is seen due to compression of the ureters from the gravid uterus.
- Hormonal effects of progesterone also may cause smooth muscle relaxation leading to dilation and urinary stasis, and vesicoureteral reflux increases.

DISCUSSION ON CLINICAL STUDY

A.

B. Observation

- **Age -** Most of the patients (70%) were from the age group of 22-27 years. Because in this period of time, most of the women get married.
- **Religion –** In the present study conducted, all the patients were from the Hindu community due to the predominance of the Hindu community in our surroundings area.
- **Occupation:** Maximum number of patients i.e. (100%) were housewives, *Mutra-vega nigraha* due to the nature of household work flavours infrequent and poor bladder emptying, this may trigger the disorder more in females *(Ch. Chi. 7/6).*
- **Socio-Economic status:** The socioeconomic status of the patients was observed, and it was found that 5% of patients belonged to the lower class and 95% of patients belonged to the middle economical class. According to data, the disease is more common in the middle and lower class, it may be because of poverty, illiteracy, lack of awareness, and poor personal hygiene. *Acharya Charak* also illustrated the use of *ruksha* food and frantic activities are the etiological factors of *Mutrakrichha (Ch. Chi. 26/32) sevana* of ruksha food and indulged in frantic activities results in *ojakshaya* decreasing *vyadhi-kshamatva*. Also, the *ruksha guna* itself acts as a stimulant in vitiating *vata guna* and ultimately being responsible for the development of diseases.
- **Dietetic habits:** In the present study maximum no. of patients, i.e., 85% were taking a mixed diet and the remaining 15 % were pure vegetarian. According to *Ayurveda* texts, *Anupam mamsa and matsya sevana* cause *kapha prakopa (Ch. Chi. 26/32). kapha prakopa* causes *Mandagni*. Due to *Mandagni* improper digestion takes place and leads to the production of *Ama*. *Ama* causes *Mutravaha Sroto Dushti* ultimately causing *Mutrakrichha*.
- **Addiction:** In the present study 100% of patients were addicted to none.
- **Sleep:** Disturbed sleep was observed in 2.5% of patients and the remaining 97.5% of patients had

normal sleep. The disturbed pattern of sleep in patients of urinary tract infections may be due to an increase in frequency of micturition, and difficulty in micturition.

- ❖ **Clinical features:** *Muhur Muhur Mutrata* was present in 8 patients i.e., 20%, and *Sadaha Mutrata* was present in 3 patients i.e., 7.5%.
- ❖ **Constitutional features:** Various constitutional symptoms were observed in the study, among them maximum is constipation i.e., 17.5% of patients, which may be due to less water intake. Pain in the abdomen basically in the lower abdomen present in 10%, may be due to urethritis.
- ❖ **Urine Analysis:** The microscopic examination of urine revealed pus cells in 40 patients i.e., 100%, and EPCs in 39 patients i.e., 97.5%. All the patients i.e., 100% had acidic urine. Urine culture was positive in all 40 patients (100%) as it was the main objective criterion of the trial.

Effect of Therapy

Effects on clinical features:

- ***Muhur Muhur Mutrata* (Increased frequency of urine):** Mean score of *Muhur Muhur Mutrata* was 1.25 before treatment and after medication, it was reduced to 0, giving 100% relief, which was statistically highly significant ($p<0.001$). Relief in symptoms may be due to the *Vasti-shodhana, Ama Sanshodhana, Sthamvana,* and *Sroto-shodhana* properties present in the trial drug.
- ***Sadaha Mutrata* (Burning micturition):** Mean score of *Sadaha Mutrata* was 1.0 before treatment and after medication it reduced to 0, giving 100% relief, which was statistically highly significant ($p<0.001$). *Daha prashamana* and *Pittashamak* properties of the trial drug had relieved the *Sadaha Mutrata.*

Effect on urine test findings:

- **Pus cells:** Mean score of pus cells was 1.46 before treatment and after medication it reduced to 0.21, giving 85.61% relief, which was highly significant statistically ($p<0.001$). This may be due to the flushing and antibacterial effects of the drug.
- **EPC'S:** Mean score of EPC was 1.76 before treatment and after medication it reduced to 0.33, giving 81.25% relief, which was highly significant statistically ($p<0.001$). This may be due to the flushing and healing effects of the drug.

Effect on urine culture findings:

- The mean score of urine culture was 1.0 before treatment and after medication it reduced to 0.21, giving 79% relief. The result was highly significant statistically ($p<0.001$). This may be due to the antibacterial and diuretic activity of the drug.

Effect on hematological findings:

- **TLC:** Mean score of TLCS was 10370 before treatment and after medication it reduced to 8726.5, giving 14.88% relief. The result was highly significant statistically ($p<0.001$).
- **ESR:** Mean score of ESR was 35.97 before treatment and after medication it reduced to 24.48, giving 31.01% relief. The result was moderately significant statistically ($p<0.012$).

Note: All the registered patients were subjected to haematological and biochemistry investigations i.e., Hb%, TLC, DLC, ESR, FBS, LFT, RFT. There were no significant changes before and after the treatment except for negligible variation in TLC and ESR. This signifies that the drug that intervened on the patients during the trial was safe to consume and there was not any toxicity in the liver and kidney.

Discussion on the Overall Effect of Therapy

The 32 patients enrolled in the trial showed improvements with the recommended dose of "***HARITAKYADI KWATH".*** The overall results of the therapy were satisfying as out of 32 patients, 25 patients i.e., 78% were cured (showing 100% relief), 1 patient i.e. 3.1% had moderate improvement (51-75% relief in the cardinal as well as constitutional features) and 1 patient i.e. 3.1% had mild improvement (25-50% relief in the cardinal as well as constitutional features). The 100% cured patients showed no urine findings (plus cells and EPCs) after 1 week of completion of the trial. After analyzing the above data, it can be concluded that the trial drug was po-

tent in *Pittaja Mutrakrichha* (UTI in pregnancy) patients.

Review on Krimi

An attempt has been made in this section to disseminate the information of basic knowledge of bacteriology in ancient India. *Krimi* is one of the oldest companions of human beings since the *vedic* period. *Krimi,* the word used as a generic term has a broad meaning. It denotes different macroscopic (insects, flies, etc) or microscopic microorganisms like bacteria, viruses, parasites, etc. The pathogenic *krimi* in *Ayurveda* has been classified from different angles and views and they possess different names. There are some drugs in *ayurvedic* medicine, which are mentioned as having special properties like *krimighna*. Some modern researchers have found that these drugs can act as antibacterial agents quite effectively. So, for these terms, the real implication lies in their antibacterial action as the word *krimi* has a very broad meaning in *Ayurveda*.

Probable mode of action against *krimi*

Acharya Charaka has mentioned three folds management principles in respect to the management of *Krimi,* and they are:

- *Apkarshan*- Extraction
- *Prakriti vighata* –Destruction of their favorable environment
- *Nidana Parivarjana*- Avoidance of etiological factors

Haritakyadi Kwath and its individual ingredient function are based on *Samprapti Vighatan Chikitsa.* Most of the ingredients of trial drugs have *Tikta* and *Kashaya rasa,* so they directly act on the *Krimi* and kill them. The internal *Krimi* were formed from phlegm *(Kapha),* as the drug having *Tikta* and *Kashaya rasa*, *Laghu and Ruksha guna, Ushna Virya and Katu* in *Vipaka,* pacify the *Kapha* and inhibit further formation of *Krimi.* When we consume improper food, *Ama rasa* is produced due to improper digestion, and vitiates *Rakta* and *Kapha* and *Krimi* are produced. As *Tikta rasa* has *Deepan and Pachan* properties, it maintains the digestion proper and prevents the formation of *Ama* hence preventing the formation of *Krimi.*

CONCLUSION

On the basis of facts, observations, and result of the clinical study the following conclusion can be drawn: *Pittaja Mutrakrichha* is the most common complaint and recurring problem in daily clinical practice. All the *Nidana* of *Pittaja Mutrakrichha* ultimately results in the *Tridosha Prokopa* and *Mandagni* (*ama* production) which along with *Kha-Vaigunya* initiates further pathogenesis. *Krichha mutrata, Peeta mutrata, Sarakta mutrata, Sadaha mutrata, Saruja mutrata,* and *Muhur-muhur mutrata* are the cardinal signs and symptoms of *Pittaja Mutrakrichha*. But in pregnancy, asymptomatic bacteriuria is most common. *Pittaja Mutrakrichha* can be compared with Urinary Tract Infections (UTIs) due to the similarity in clinical appearance. *Escherichia coli* is the commonest cause of UTIs in pregnancy. It is accountable for about 70-80% of acute infections in the general population and 50% of hospital-acquired infections. According to a survey study, it was concluded that *Kapha-Pittaja Prakriti* patients are more prone to *Pittaja Mutrakrichha* and *Nidan* which are mentioned in our literature were followed by those patients. Urinary tract infections are common in women. 92.31% of patients were females out of the total patients enrolled in the study. All the registered patients of UTIs were assessed over six subjective criteria and two objective criteria (presence of pus cells and urine culture positive). The 32 patients enrolled in the trial showed satisfactory improvements. 100 per cent relief was found in 78% of patients., Marked improvement was found in 0% of patients., Moderate improvement was found in 3.1% of patients., Mild improvement was found in 3.1% of patients and no patients remained unimproved. The probable mode of action of *Haritakyadi Kwath* in *Pittaja Mutrakrichha* may be due to *Madhura, Tikta* and *Kashaya Rasa, Laghu* and *Snigdha Guna, Sheeta Virya, Madhura Vipaka,* and *Tridoshahara* properties. Chemical constituents present in the trial drug (flavonoids, flavonol glyco-

sides, steroidal saponins, tannins, phenolic compounds, and alkaloids) were potent enough to cure the UTIs as it possesses antipyretic, anti-inflammatory, anti-microbial, antiulcer, analgesic, diuretic and hemostasis properties. On the basis of a clinical study, it can be concluded that *Haritakyadi kwath* is efficient in producing significant symptomatic improvement in patients of *Pittaja Mutrakrichha*. No adverse effect of the therapy was noted during the study and in the follow- up period.

REFERENCES

1. Madhavkara, Madhava Nidhana, Vijayrakshita's Madhukosha Sanskrita Commentary by Brahmanand Tripathi Chapter 30/1-2, Varanasi, Chaukhambha Surbharti Prakshana 2012.
2. Charaka, Charaka Samhita, Hindi commentary by Kashinath Shastri, Chikitsa Sthana Chapter 26/34-41, Varanasi, Chaukambha Bharti Academy 2011.
3. Sushurta, Sushruta Samhita, Hindi commentary by Ambikadatta Shastri, Nidana Sthana Chapter 3/27-28, Varanasi, Chaukambha Sanskrit Sansthana
4. Sushurta, Sushruta Samhita, Hindi commentary by Ambikadatta Shastri, Uttara Tantra Chapter 59/3, Varanasi, Chaukambha Sanskrit Sansthana
5. API Textbook of Medicine 9th Edition page no. 1316
6. Chamberlain's Symptoms and Signs in Clinical Medicine 13th Edition Page no.137
7. Microbiology in clinical practice by D.C Shanson 2nd edition1989
8. Harrison's Principles of Internal Medicine 19th Edition
9. Microbiology in clinical practice by D.C Shanson 2nd edition1989
10. Charaka, Charaka Samhita, Hindi commentary by Kashinath Shastri, Chikitsa Sthana Chapter 26, Varanasi, Chaukambha Bharti Academy 2011.
11. Chakradatta of Shri Chakrapanidatta with Vaidayaprabha Hindi Commentary and notes, introduction, indices, appendices by Dr. Indradeva Tripathi, edited by Prof. Ramanath Dwivedy, Chaukhambha Bharti Academy, Reprint 2014.
12. Kostakioti M, Hultgren SJ, Molecular blueprint of uropathogenic Escherichia coli virulence provides clues toward the development of anti-virulence therapeutics. Virulence 2012
13. Urinary Tract Infection in Pregnancy by Patricia J. Habak; Robert P. Griggs, Jr.
14. Harrison's principle of Internal Medicine 18th Edition page no. 2387

Source of Support: Nil
Conflict of Interest: None Declared

How to cite this URL: Akshay kumar: Clinical study of Haritakyadi Kwath in Pittaja Mutrakrichha (UTI in pregnancy). International Ayurvedic Medical Journal {online} 2023 {cited May 2023} Available from: http://www.iamj.in/posts/images/upload/1019_1024.pdf