

**A CRITICAL REVIEW OF MUTRA PARIKSHA (URINE EXAMINATION) IN THE
CONTEXT OF AYURVEDA & MODERN CONTEXT****Dr. Vinod Singh*¹ and Dr. Amrendra Kumar Singh²**¹MD Scholar, Dept. of Rog Nidan & Vikriti Vigyan, Govt. Ayurveda College Patna.²Associate Professor, College Patna Dept. of Rog Nidan & Vikriti Vigyan, Govt. Ayurveda College Patna.***Corresponding Author: Dr. Vinod Singh**

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ABSTRACT

Ayurveda the traditional Indian medicinal system. It is a science of life with a holistic approach to health & personalized medicine. It is known to be a complete medical system that comprised physical, psychological, philosophical, ethical and spiritual health. In Ayurveda there is various types of parikshavidhi (examination) should be done for the diagnosis of disease like Dashvidhpariksha, Asthavidhpariksha, Shadhvidhpariksha, Panchvidhpariksha, Chaturvidhpariksha and Trividhpariksha. Asthavidhpariksha which is firstly mention by Acharaya Yogratnakar. Mutra Pareeksha is not only a diagnostic tool & also prognosis criteria of urine examination developed by the medieval Ayurvedic scholars. This article aims at, by using this ancient wisdom to diagnose the medical conditions and to predict about their prognosis, and studying about how it can be applied to modern medical practice and its limitations. In today's modern medical practices, there is a plethora of urine diagnostic examinations available. These act as an added financial burden to the patients. In the midst of this, making use of context of MutraPareeksha in Ayurveda like Tailabindu pareeksha, Pramehprakarana & Mutrakruchra for urine examination, will not only prove economical, but also is a time-tested and scientifically proven method. Prognosis is an important aspect of diagnosis and treatment. In modern medicine urine examination is used as the one of the important diagnostic and prognostic tool but in Ayurveda urine examination is used in a systematic and scientific way for knowing the diagnosis and prognosis of the disease from samhita kala. Thousands of year before, for diagnosis of the various aspects of the disease and diseased person several methods has been described in different Ayurved samhita. These methods can be broadly classified in to Rogi pariksha and Rog pariksha.

KEYWORDS: Mutra Pareeksha, Urine Examination, Taila bindu Pareeksha.**INTRODUCTION**

Roga-Rogi Pareeksha plays an important role in assessment of diagnosis and prognosis of the disease as well provides guidance to adopt appropriate treatment. Ashta Sthana Pareeksha is one among Rogi Pareeksha which represents the clinical assessment as well as the laboratory investigations of medieval period. Among Ashta Sthana Pareeksha, Mutra Pareeksha is an important aid in diagnosis as well as assessing the prognosis of a disease of Mutravaha Srotas and other Srotas as well. Investigations play a major role in diagnosis of any disease. In Ayurveda literature various examination methods are explained, even then we are completely depending on modern parameters due to lack of proper understanding and explanations available in our texts. Tailabindhu Pareeksha is one among such modality explained by Acharyas of medieval period. Thus, enlighten to its various aspects is essential. Tailabindhu Pareeksha, Prameha Prakarana & Mutrakrichra are special modality for examination of

urine. The need for clinical examination and drug evaluation were of less significance in ancient period because Acharyas of ancient days were empowered with special sense (Divya Drusti). Knowledge conveyed through their texts was at brief with less explanation with reference to scientific description. Several types of the pariksha vidhies has been described by different acharyas in different samhita. Acharya Yogratnakar has described the Ashtasthan pariksha vidhi. It is a one of the important pariksha which explains not only the methods of clinical examination but also some laboratory investigations. Beside this he has narrated a special technique of urine examination i.e. Tail Bindu Pariksha which is used to knowing the prognosis of the disease from samhita kala. Mutra pariksha is not described in brihatrayi systematically, scattered references are available in relation with purvarupa, rupa, updrava, arishta laxnas of different vyadhies and in description regarding the physiological state of the body. Hence this study endeavors to elaborate the mutra pariksha vidhi with an

Ayurvedic perspective. In this modern era we are living in sedentary and stressful life. This is the root cause for the manifestation of various diseases. Intake of drinks & foods during urge for micturition, suppression of urge for urination and any injury etc.^[1] May cause mutravikara (urinary tract disorders). In Ayurveda there is various parikshavidhiare described by the ancient Acharyas for diagnosis of the diseases. Tail bindupariksha is one of the specific diagnostic tools for the mutravikara. Physician should develop technical skill, scientific knowledge and human understanding to acquire complete knowledge for their diagnosis of various disease.^[2] It is important to diagnosis the disease by using appropriate technique and accordingly treat the treatable disease with love and affection.^[3] Improper observation of patient by physician, which have not been thoroughly described and diseases which have not been diagnosed correctly are going to confuse the physician.^[4] That's why Acharya Charak said that, the physician should examine the disease first then the drug and there after the management.^[5] The one who knows the characters of disease, is well-versed in all therapeutic measures and is acquired with the proper measure of place and time succeeds undoubtedly.^[6]

Samanya Mutra Guna

Manusha Mutra has Kshara(alkaline), tikshna and Lavana (salt) Rasa and resembles Kupa Jala (well water) when Dhatus are in equilibrium. Further while explaining Prameha Nivrutti Lakshana Sushruta mentions Anavilata (devoid of turbidity), Apicchilata (non unctuous), Visada (thin/not dense), Tikta (bitter) and Katu (pungent) of Mutra reflects Arogya.^[7]

Mutra Pareeksha in Bruhatrayi

Changes in the attributes of Mutra in different diseases carrying diagnostic and pronostic importance is mentioned in relevant chapters of Bruhatrayi. The explanations regarding change in organoleptic characteristics of Mutra is found in Jwara, Kamala, Pandu, Arhas, Udara, Ashmari etc.

Mutra Pramana

Mutra Pramana is mentioned as 4 Anjali.^[8] Prabhuta Mutrata is mentioned in Prameha samanya Lakshana,^[9] indicates polyuria which has got diagnostic importance in Prameha. Alpa Mutrata is mentioned in the context of Ashmari and Mutrakruhra which indicates presence of oliguria in these diseases. Mutra Apravrutti is mentioned in the context of Mutraghata and Mutravruta Vata reflecting anuria.

Mutra Varna^[10,11]

Shukla Varna of Mutra is mentioned in the context of Udaka Meha, Pista Meha and Kaphaja Pandu. Krishna Varnata of Mutra is found in the explanation of Kala Meha and Khumba Kamala Lakshana. In Haridra Meha, Pittaja Mutrakruhra, Kamala and Pittaja Pandu Peetavarnata of mutra aids in diagnosis. Neela Varna of Mutra is diagnostic symptom in Neela Meha. Rakta

Varna of Mutra is encountered in Ashmari, Mutra Sanga and Rakta Meha.

Mutra Roopa

Appearance of Mutra also provides diagnostic and prognostic aid in the assessment of different diseases. For instance Avilata of Mutra (turbidity) in Prameha aids in diagnosis. Anavilata of Mutra in Pramehi indicates Prameha Nivrutti which is of prognostic value. The word Accham is used in Udaka Meha (transparency of urine) helps in diagnosis. Presence of Sikta (gravel) and Sandrata (sedimentation) is of diagnostic importance in Sikta and Sandra Meha respectivel.^[12]

Rasa and Gandha of Mutra

Rasa and Gandha of Mutra aids in diagnosis of different Prameha. Amla (acidic), Kshara (alkaline) Rasa and Gandha (acidic) of Mutra is mentioned in the context of Amla Prameha and Kshara Meha aids in diagnosis of respective Prameha. Madura Rasa and Madhu Gandha are of diagnostic value in the assessment of Prameha. Nirghanda of Mutra in Udaka Meha and Vittulya Gandha in Vitvighataja Mutrakruhra serves important role in diagnosis.

Chakshusendriya Pariksha

In Chakshusendriya Pariksha, one can assess colour, transparency, consistency, presence of froth, abnormal constituents etc. The Pitta dosha according to Ayurveda is responsible for the production of all colours. Tridoshas also play an important role in affecting the colour of urine as well as other parts of body. Vitiation of Doshas cause changes in different colour. The Sharira dhatus while passing out through the urine also affects the colour of urine by giving the tinge of own colour. Some of the changes in colour which are the characteristic features of several diseases are given below.

This Pariksha includes Krisna varna mutra, Aruna varna Mutra, Peeta varna mutra, Harita varna mutra, Shukla varna mutra, Shveta varna mutra, Rakta varna mutra, Bhasmodaka varna mutra and Gomeda varna mutra.

Krisna varna mutra

1. Vataja gulma lakshana
2. Pittaja prameha (Kalameha)
3. Arsha lakshana
4. Vatika Udara roga
5. Vataja arsha lakshana
6. Vatika pandu lakshana

Aruna varna Mutra

1. Vata jwara
2. Vata gulma
3. Vatika udara roga
4. Vataja arsha lakshana
5. Vatika pandu

Peeta varna mutra

1. Pittaja jwara

2. Purva rupa raktapitta
3. Pittaja gulma
4. Pittaja udara roga
5. Pittaja arsha lakshana
6. Kamala lakshana
7. Pittaja visarpa
8. Pittaja trishna
9. Pittaja nanatmaja vikara
10. Pandu purva rupa
11. Pittaja pandu lakshana
12. Mutraghata (Ushna vata)
13. Mutraghata (Pittajanya mutraukasada)
14. Pittaja mutrakrichhra
15. Pitta vyadhi adhikara

Harita varna mutra

1. Pittaja jwara lakshana
2. Rakta pitta purvarupa
3. Pitta gulma lakshana
4. Pittaja udara lakshana
5. Pittaja visarpa
6. Pittaja nanatmaja vikara

Shukla varna mutra

1. Kaphaja jwara lakshana
2. Kaphaja gulma lakshana
3. Kaphaja prameha (Shuklameha)
4. Kaphaja udara roga lakshana
5. Kaphaja arsha lakshana
6. Kaphaja pandu
7. Kaphaja visarpa
8. Kaphaja nanatmaja vikara
9. Kaphaja arsha
10. Mutraghata (Kaphaja mutraukasada)
11. Kaphaja Mutrakrichhra

Shveta varna mutra

Kaphaja jwara

1. Mutraghata (Mutrasada)
2. Prameha (Udakameha)
3. Prameha (Pistameha)

Rakta varna mutra

1. Raktapitta – Purvarupa
2. Prameha (Rakta meha)
3. Pittolvana kapha vata heena sannipatta jwara
4. Kshata ksheena lakshana
5. Kamala roga lakshana
6. Pittaja prameha (Shonita mehi)
7. Pittaja mutrakrichhra
8. Mutraghata (Mutrasada)

Bhasmodaka varna mutra

1. Ashmari lakshana
2. Mutraghata (Mutrashukra)

Gomeda varna mutra

1. Ashmari lakshana
2. Mutraghata (Mutrasada)

There are number of diseases where transparency and consistency is altered due to change in constituents of urine. In texts, abnormality in transparency and consistency, which were observed in various disorders has been tabulated below.

Abnormal Constituents in urine

Blood in urine

1. Pittaja prameha (Raktameha)
2. Kshata kheena
3. Sarpa damsta
4. Pittaja mutrakrichhra
5. Ashmari lakshana
6. Raktapitta
7. Mutraghata (Usnavata)
8. Kshataja kasa

Shukra mutrata

1. Shukra meha
2. Shukraja mutrakrichhra

Rasendriya Pariksha

Different Rasa of Sharira i.e. body should be examined by Anumana pramana. With the help of Aptopdesha (rasa of urine mentioned in different diseases by different Acharyas) and Anumana pramana we can sketch out state of rasa in various pathological conditions. Rasa of urine depends chiefly upon constituents present which may be altered by abnormal destruction of Sharira dhatus or by abnormal substances resulting from Dosha-dushya samurchana or if Sharira dhatus pass out as such in urine and affect its Rasa.

Yogratnakar's Tail Bindu Pariksha

Acharya Yogratnakar have described a specialized, scientific and systematic method of examination mutra which have a great prognostic value in ayurveda.

Collection of mutra for examination

Vaidya should collect the mutra of the patient for mutra pariksha vidhi before four ghatika in the last yama of the ratri(night). Addyadhara (initial urinary flow) of the mutra should be discarded and mutra from madhyadhara of the patient should collected in a kanch patra(glass dish), kansya patra(bronz dish), mrutta patra (earthan dish).^[13]

Method: Mutra pariksha vidhi should be carried out after the sunrise in a natural light on a vidhivata collected urine sample. Mutra should be taken in a kanch patra(glass dish) or kansya patra(bronz dish) or mrutta patra (earthan dish) in a sufficient amount. A drop of till taila is dropped in mutra with the help of trin kashta on the surface of the urine. Then the movement and the behavior of the taila bindu is observed.^[14]

Prognosis on the basis of movement of the tail bindu

If the taila bindu spreads immediately then vyadhi is sadhya(disease is curable), If the tailbindu does not spreads then vyadhi is kashtasadhya(difficult to treat), if

the tailbindu sink to bottom then is asadhya (incurable).^[15]

Sr. Nu.	Movement of the tailbindu	Sadhyasadhyata
1.	Spreads immediately	Sadhya vyadhi(curable)
2.	Dose not spread	Kashtasadhya vyadhi(difficult to treat)
3.	Sink to bottom	Asadhya vyadhi(incurable)

Prognosis disease can be identify on the basis of direction of the movement of tail bindu on the surface of the mutra.^[16]

Direction of Movement/spread of tail bindu	Sadhyasadhyata (prognosis) of the vyadhi
Purva/Paschim/Uttara/Dakshin	SukhSadhya(curable)
Eshanya	Death within one month
Agneya/Nairutya	Immediate death of the patient
Vayavya	Bad prognosis

Involvement of the dosha in the samprapti of vyadhi can be identify by tail bindu pariksha it is as follows.^[17]

Sr. Nu.	Shape of the tail bindu	Dosha involved in samprapti
1.	Sarpakara (snake)	Vata
2.	Chatrakara (umbrella)	Pitta
3.	Mukta (pearl)	Kapha

Prognosis based on different shape of tail bindu is as follows, If the shape of the tail bindu appears as a Hala(axe), kurma(tortoise), sairibha(buffallow), Krand mandala(honey comb), shiroheena nara(head less human body), shastra, khadga(sword), sara(arrow), gatra khanda (body part), mashala patti(spear with masoor dal shape age), laguda(stick) and trichatuspata indicate asadhya of the vyadhi. If the shape of the tail bindu appears as hans(swan), karanda(duck), tadoga (dark green pumpkin), kamala (lotus), gaja (elephant), Chamara (fan made up of bas grannies used for fly-flap) chatra (umbrella), torana (ornamental door arch), harmya (home) indicative of the sadhya vyadhi. If the shape of the bindu resembles chalani(sieve), Nara akara(human body), and mastaka dwaya (human body with two head) indicates kuldosha, preta dosha, bhoot dosha respectively.^[18]

Urinalysis: A urinalysis (also known as a urine test) is a test that examines the visual, chemical and microscopic aspects of your urine (pee). It can include a variety of tests that detect and measure various compounds that pass through your urine using a single sample of urine. Healthcare providers often use urinalysis to screen for or monitor certain common health conditions, such as liver disease, kidney disease and diabetes, and to diagnose urinary tract infections (UTIs). While several different aspects of your health can be tested with a urine sample, your healthcare provider will choose which tests to order under a urinalysis depending on your symptoms and situation.

Tests in urinalysis: Your healthcare provider can include several different tests in a urinalysis. Depending on your symptoms, existing health conditions, and/or situation, your provider will choose which urine tests to order under a urinalysis. In general, a healthcare provider or laboratory technician can examine a urinalysis urine sample for the following broad aspects:

- Color and appearance.
- Chemical findings.
- Microscopic findings.

Urine color and appearance: For most urinalysis tests, a healthcare provider examines how the urine sample looks to the “naked eye.” They check if it’s clear or cloudy and if it’s pale, dark yellow or another color. Normal urine color is usually some shade of yellow and can range from colorless or pale yellow to deep amber, depending on how concentrated or diluted (watery) your urine is.

Many things can affect the color of your urine, including certain medications and supplements and certain foods you eat, such as beets. However, an unusual urine color can also be a sign of disease. For example, red-colored urine can happen when blood is present in your urine and can be an indicator of disease or damage to a part of your urinary system. Cloudy urine doesn’t always indicate unhealthy urine. For example, sperm and skin cells are harmless and could make your urine appear cloudy. Other substances that can make your urine cloudy, such as red blood cells, white blood cells and bacteria, may indicate several different medical conditions, including:

- Dehydration.
- Urinary tract infection (UTI).
- Sexually transmitted diseases and infections (STDs and STIs).
- Kidney stones.
- Diabetes.

Urine chemical findings

To examine chemical aspects of a urine sample, healthcare providers or lab technicians often use special test strips called dipsticks to test for certain chemical substances in the urine sample. The strips have pads of chemicals that change color when they come in contact with specific substances. The degree of color change on the dipstick can give an estimate of the amount of substance present. For example, a slight color change in the test pad for protein may indicate a small amount of protein present in the urine sample, whereas a deep color change may indicate a large amount. Common types of tests that use a dipstick that providers may include in a urinalysis include:

- **Protein urine test:** A protein urine test measures the presence of proteins, such as albumin, in your urine. Higher-than-normal urine protein levels may indicate several different health conditions, such as heart failure, kidney issues and dehydration.
- **Urine pH level test:** A urine pH test measures the acid-base (pH) level in your urine. A high urine pH may indicate conditions including kidney issues and a urinary tract infection (UTI). A low urine pH may indicate conditions including diabetes-related ketoacidosis and diarrhea.
- **Ketones urine test:** Ketones build up when your body has to break down fats and fatty acids to use as fuel for energy. This is most likely to happen if your body does not get enough sugar or carbohydrates as fuel. Healthcare providers most often use ketone urine tests to check for diabetes-related ketoacidosis.
- **Glucose urine test:** A glucose urine test measures the amount of sugar (glucose) in your urine. Under regular circumstances, there shouldn't be glucose in your urine, so the presence of glucose could be a sign of diabetes or gestational diabetes.
- **Bilirubin urine test:** Bilirubin is a yellowish pigment found in bile, a fluid produced by your liver. If you have bilirubin in your urine, it may indicate liver or bile duct issues.
- **Nitrite urine test:** A positive nitrite test result can indicate a urinary tract infection (UTI). However, not all bacteria are capable of converting nitrate (a substance that's normally in your urine) to nitrite, so you can still have a UTI despite a negative nitrite test.
- **Leukocyte esterase urine test:** Leukocyte esterase is an enzyme that's present in most white blood cells. When this test is positive, it may indicate that there's inflammation in your urinary tract or kidneys. The most common cause for white blood

cells in urine is a bacterial urinary tract infection (UTI).

- **Urine specific gravity test:** A specific gravity test shows the concentration of all chemical particles in your urine. Abnormal results may indicate several different health conditions.

Urine microscopic findings: A lab technician may examine a urine sample under a microscope to look for tiny substances in the urine, including:

- Cells.
- Cell fragments.
- Urinary casts
- Mucus.
- Bacteria or other germs.
- Crystals.

Microscopic tests that providers may include in a urinalysis include:

- **Red blood cell (RBC) urine test:** An elevated number of RBCs indicates that there's blood in your urine. However, this test can't identify where the blood is coming from. For example, contamination with blood from hemorrhoids or vaginal bleeding can't be distinguished from a bleed somewhere in your urinary system. In some cases, higher-than-normal levels of red blood cells in your urine may indicate bladder, kidney or urinary tract issues.
- **White blood cell (WBC) urine test:** An increased number of WBCs and/or a positive test for leukocyte esterase may indicate an infection or inflammation somewhere in your urinary tract.
- **Epithelial cells:** Epithelial cells are cells that form the covering on all internal and external surfaces of your body and line body cavities and hollow organs. Your urinary tract is lined with epithelial cells. It's normal to have some epithelial cells in your urine, but elevated numbers of epithelial cells may indicate infection, inflammation and/or cancer in your urinary tract.
- **Bacteria, yeast and parasites:** Sometimes, bacteria can enter your urethra and urinary tract, causing a urinary tract infection (UTI). The urine sample can also become contaminated with bacteria, yeast and parasites, especially for people with a vagina. Yeast can contaminate the sample for people who have a vaginal yeast infection. *Trichomonas vaginalis* is a parasite that may also be found in the urine of people who have a vagina. It's the cause of an STI called trichomoniasis.
- **Urinary casts:** Casts are tiny tube-like particles that can sometimes be in your urine. They're formed from protein released by your kidney cells. Certain types of casts may indicate kidney issues, while others are completely normal.
- If you're experiencing and signs and symptoms of certain health conditions, such as diabetes or kidney disease.

- To monitor certain health conditions you're receiving treatment for, such as diabetes or kidney disease.
- To diagnose a urinary tract infection (UTI).
- If you've been admitted to a hospital.
- As a preparatory checkup for surgery.

CONCLUSION

Ayurveda is science of life which is more based on observations than investigations. Laboratory investigations provides the evidence and confirmation of the diagnosis. In this era of modernization and advancement of the medical science urine examination is widely used for a diagnostic and prognostic purpose. Since ancient time thousands of year back some laboratory investigations (mala, mutra, rakta, shtivan, shukra etc) were available and used while practicing ayurveda. from the mutrapariksha we know about sadhya-ashadhya of disease, doshas involvement, varna, gandha of the mutra is given major role to given knowledge about the dosha involvement of disease. The physician should examine the disease first then the drug & thereafter the management is better for the patient & human society Since ancient time laboratory investigative procedures were in practise in medical science and inspection of urine was utilised for diagnosis, further also to understand course of the disease. Mutra Pareeksha has scope in diagnosis, prognosis and to adopt measures of management in various diseases. Hence Mutra Pareeksha is an important ancient diagnostic and prognostic tool of assessment.

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