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A REVIEW OF MUTRA PARIKASHAN (ATHAVIDH PARIKSHA) THROUGH THE LENS OF AYURVEDA

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ABSTRACT

Ashtavidh Pariksha, the eight-fold examination, is a fundamental diagnostic tool in Ayurveda. Among these eight methods, Mutra Parikshan (urine examination) holds significant importance. This ancient technique helps Ayurvedic practitioners assess an individual's overall health, identify potential disorders, and monitor treatment efficacy. Mutra Parikshan, a vital component of Ashtavidh Pariksha in Ayurveda, involves examining urine characteristics to diagnose and monitor various health conditions. This study explores the significance, methodology, and clinical applications of Mutra Parikshan. A review of classical Ayurvedic texts and contemporary research highlights its importance in assessing dosha balance, digestive health, metabolic functioning, kidney and urinary tract health, and systemic inflammation. The study demonstrates Mutra Parikshan's potential as a non-invasive, cost-effective diagnostic tool. Ayurveda is a holistic science of life and health. The concept and method of Nidana (Diagnosis) in Ayurveda mainly depends on the understanding of Dosha and Dushya. Pariksha (examination) are the diagnostic tool that helps to diagnose the Vyadhi of the Rogi. Acharya Charak said that the physician should examine the Roga first then the Aaushadha (medicine) and there after the Chikitsa(treatment) is decided. He should always proceed with the prior knowledge and examination skills. In Ayurveda classical texts, Acharyas like Charak, Sushruta, Vagbhatt, Yogratnakar had given different Parikshas to assess the condition of the patient. "AsthasthanaPariksha" also termed as "Ashtavidha Pariksha was given by Yogratnakar. It has its own significance in the diagnosis of diseases.

KEYWORDS: Mutra Parikshan, Ashtavidh Pariksha, Urine Examination, Diagnostic Technique.

INTRODUCTION

Ashtavidh Pariksha, the eight-fold examination, is a fundamental diagnostic tool in Ayurveda. Mutra Parikshan, urine examination, is an essential part of this methodology. This ancient technique helps Ayurvedic practitioners assess an individual's overall health, identify potential disorders, and monitor treatment efficacy. The examination involves assessing urine characteristics, including Varana (color), Gandha (odor), Rasa (taste), Dravya (texture), and Prabhava (effect). Mutra Parikshan's significance lies in its ability to provide immediate diagnostic insights, helping practitioners develop personalized treatment plans.

Acharya Charaka emphasized the importance of comprehensive assessment in disease diagnosis, advocating for a thorough examination of the patient (Rogi Pariksha) and disease (Rog Pariksha) before selecting treatment.[1] This approach prioritizes the patient as the central element of examination, focusing on life expectancy, physical strength, and dosha imbalance assessment.[2] Various diagnostic methods (Pariksha Vidhis) have been described by renowned acharyas in ancient texts. Notably, Acharya Yogratnakar outlined the Ashtasthana Pariksha Vidhi in the Ashtanga Hridayam, encompassing clinical examination techniques and laboratory investigations. Additionally, he introduced Tall Bindu Pariksha, a specialized urine examination method for prognostication.

Although Mutra Pariksha (urine examination) is not systematically described in the Brhat Trayi, scattered references appear throughout, relating to purvarupa (premonitory symptoms), rupa (manifestations), updrava (complications), and arishta lakshanas (prognostic signs) of various diseases, as well as physiological states. This study aims to provide an in-depth exploration of Mutra Pariksha Vidhi, bridging the knowledge gap and offering a comprehensive perspective.

Roga Ragi Pareeksha is crucial in diagnosing and prognosticating diseases, guiding treatment choices. Ashtasthana Pariksha, a component of Rogi Pariksha, encompasses clinical assessment and laboratory investigations from the medieval period. Among these, Mutra Pareeksha plays a vital role in diagnosing and prognosticating Mutravaha Srotas and other Srotas-related diseases. In Ayurvedic literature, various examination methods are explained. However, due to limited understanding and explanations, modern parameters are predominantly relied upon. Tallabindu Pariksha, an ancient modality, necessitates exploration. Specialized urine examination methods include Tailbindu Parikshan, Prameha Parikshan, and Mtrakrichra.

Historically, clinical examination and drug evaluation held less significance, as ancient Acharyas possessed exceptional perception (Devya Drusti). Their texts conveyed concise knowledge with limited scientific descriptions. Various diagnostic methods (Pariksha Vidhis) have been described by renowned acharyas in different samhitas. Notably, Acharya Yogratnakar outlined Ashtasthana Pariksha Vidhi, which includes clinical examination and laboratory investigations. He also introduced Tailbindu Pariksha for prognostication. Although Mutra Pariksha is not systematically described in the Brhat Trayi, scattered references relate to purvarupa, rupa, updrava, and arishta lakshanas of various diseases. This study aims to elucidate Mutra Pariksha Vidhi from an Ayurvedic perspective, bridging the knowledge gap.

AIMS AND OBJECTIVES

To study Mutra Parikshan with an Ayurvedic perspective.

MATERIALS AND METHOD

Literature Review

Mala, or waste materials, are byproducts of metabolic activities excreted from the body. Ayurvedic texts classify Mala into two categories: Annamala and Dhatu Mala. Annamala comprises Purish (feces), Mutra (urine), Mal Vayu (flatus), and Sweda (sweat).[3] Dhatu Mala forms during Dhatupaka, where seven Dhatuagnis transform Sara Rasa into respective Dhatus and their corresponding waste products.

Theories on Dhatu Mala count vary, with Charakacharya citing eight[4] and Sharangdhar Samhita stating seven.[5] For urine examination (Mutra Pariksha Vidhi), Sushruta's six-fold examination method (Prashne, Chakshu, Sparsh, Shrotra, Ghran, Rasana Pariksha) applies.[6]

Formation of Mutra

Mala forms in the large intestine. Jatharagni digests food into Sara (absorbable) and Kitta (non-absorbable) components. Seven Jatharagnis and Panch Mahabhutagni transform Sara Rasa into Dhatus and Dhatu Mala. Kitta's solid part (Purisha) is expelled via Purishvaha Srotas, while the liquid part becomes Mutra in Mutravaha Srotas.[7]

Properties of Normal Urine (Samanya Mutra Guna):

Acharya Charaka associates urine with the Aap Mahabhutbhava. Ashtangsangrahakara considers Mutra the seat of Kapha. Normal urine exhibits Kshara (alkaline), Tikshna (sharp), and Lavana (salty)[8] properties, resembling kupa jala (clear well water).[9] Acharya Sushruta describes healthy urine as Anavilata (clean), Apicchilata (non-slimy), Visada (clear), Tikta (bitter), and Katu (pungent).[10]

Diagnostic Significance

Mutra Praman (urine quantity) is approximately four Anjali.[11] Prabbuta Mutrata, mentioned in Prameha Samanya Lakshanas[12], indicates polyuria, crucial for diagnosing Prameha.

1. Mutra Prashn Pariksha

When assessing urinary health, a Vaidya should establish a rapport with the patient through a compassionate and empathetic approach. This involves taking a comprehensive history of urination patterns, noting specific complaints, and inquiring about factors such as urinary flow, pain during urination (vedana), obstructed flow (Avrodhajanaya mutrapravruti), urine volume (Mutra praman), daytime and nighttime frequency (ahoratra and ratri vegsankhya), nocturnal polyuria (Naktamutrata), burning sensation (mutradaha), and abnormal urine constituents. Previous medical history, including kidney stones (ashmari mutrakriccha), urinary disorders (mutraghata), urinary tract infections (prameha), and genitourinary diseases (yon sankaramak roga), should also be considered.

2. Mutra Chakshu Pariksha

Involves inspecting the urine in natural light after sunrise for characteristics such as appearance (e.g., bhasmodaka, gorochana, shankhchurnavata), color (varna), clarity (accha), sediment (avil, anavil), and presence of blood or pus (raktapuya). This assessment helps identify dosha imbalances (dosha prabhava) and aggravation (doshaprakopa), which can indicate underlying health issues (vyadhi vishesh).[13] Normally, urine appears clear and transparent.

Dosha Prabhav on Mutra	Mutra Varnadi Guna
Vata Dosha	Pandur varna
Pitta Dosha	Rakta varna
Kapha Dosha	Safen
Vata Prakopa	Nilam, Ruksha
Pitta Prakopa	Pita Aruna, Tailasam

Kapha Prakopa	Snigdha, Kamal jal tulya
Rakta Prakopa	Ushna, Rakta varna
Pitta Vata Prakopa	Dhumjalbh (Dhum-Mishrit jal sam), Ushna
Vata Kapha Prakopa	Shwet varna, Budbudabham (water bubbles)
Kapha Pitta Prakopa	Rakta varna, Avilata (Turbid)
Sannipatik Prakopa	Mishra varna, Jeernajwar sadrush pitam

Mutra varna Pariksha in different Vyadhi

Shukla varna of mutra is mention udakmeha, pishtameh and kaphaj pandu. Krishna varana mutra fouds in kalameha, kumbh kamla. Haridra varna mutra is explained in pitta mutrakriccha, kamla and pitvarna of mutra founds in pittaj pandu. Neel varna mutra is a diagnostic feature of the neelameh. Rakra varana of mutra is a feature of ashmari, mutrasangh and rakta Meha.[14,15]

Mutra varna	Vyadhi
Shukla	Udakameha, Pishtamesha, Kaphaj Pandu
Krishna	Kalamesh, Kumbh Kamla
Haridra	Pitta Mutrakriccha, Kamala, Ushnavata Mutraghata
Pita	Pitta Pandu
Neel	Neelamesh
Rakta	Ashmari, Mutrasanga, Raktameh

Mutra vishesh rupa

The appearance of urine (Mutra Vishesh Rupa) offers valuable diagnostic and prognostic insights, aiding in differential diagnosis. Specific characteristics include:

- Avil Mutrata (turbid urine), indicative of Prameha
- Anavil Mutrata (clear and transparent urine), suggesting Prameha Nivriti, with prognostic significance[16]
- Accham Mutra (transparent urine), a key feature of Udakameha
- Presence of Sikta (fine granules), indicative of Siktameha
- Sandrata (sediments), confirming Sandra Meha diagnosis

Based on the presence of sandrata or sikta, we can distinguish between Sandra Meha and Siktameha[17]. Additionally, urine resembling Bhasmodaka (calcium hydroxide/lime water) is characteristic of Mutrashukraja Mutrakriccha.[18]

Mutra Rupa (Physical properties)	Vyadhi
Avil mutra	Prameh
Anavil mutra	Prameh nikriti
Accham mutra	Udakmeh
Sikta in mutra	Sikta meh
Sandrata in mutra	Sandrameh
Bhasmodaka pratikash	Mutrashukra, Mutraghata
Shankh churnavat / gorochanvat	Mutrasad, Mutraghata

3. Sparsha Pariksha

Freshly collected urine should be examined using a thermometer to determine its temperature (Ushana/Sheeta Sparsha). Notably, urine temperature is comparatively lower in Sheet Meha and Udakameha.[19] Additionally, viscometer analysis assesses snigadhata (viscosity), picchilara (density), and vishada (clarity), providing diagnostic insights.

4. Mutra Gandha Pariksha

Normal urine exhibits a characteristic aromatic smell (Mutraganda). Altered smells indicate various disease conditions:

- Nighandha Mutra (odorless urine) in Udakameha[20]
- Vidgandha Mutra (foul-smelling urine) in Vidvighata Mutraghata[21]
- Madhugandh Mutra (honey-like smell) in Madhumeha
- Amagandha Mutra (sour smell) in Manjishta Meha

5. Rasana Pariksha

Acharya Vagbhata states that variations in urine taste result from dosha-dushya samyoga vishesha.[22] In Prameha context, Acharya Charaka mentions ants attracted to urine due to sharkara (glucose)[23] presence. Specific tastes characterize various Pramehas:

- Amla (acidic) rasa in Amla Meha
- Kshara (alkaline) rasa in Kshara Meha[24]
- Madhuri (sweet) rasa in Madhumeha and Ikshumeha

Modern urine chemical examinations, such as urine glucose tests, confirm these tastes. pH testing identifies Amla rasa (pH < 7) and Kshara rasa (pH > 7).

6. Yogratnakar's Tail Bindu Pariksha

Acharya Yogratnakar described a systematic, scientific method of urine examination holding significant prognostic value in Ayurveda.

Collection of Urine for Examination

A Vaidya should collect the patient's urine for Mutra Pariksha Vidhi during the last quarter of the night, approximately four ghatikas before sunrise. To ensure accuracy, the initial urinary flow (Addyadhara) should be discarded, and the mid-stream urine (Madhyadhara) collected in a clean, dry container made of glass (Kancha Patra), bronze (Kansya Patra), or earthenware (Mrutta Patra).[25]

METHODOLOGY

Mutra Pariksha Vidhi should be performed after sunrise in natural light using the collected urine sample. Fill the chosen container with an adequate amount of urine.

Tail Bindu Pariksha

1. Add a single drop of sesame oil (Til Tail) to the urine surface using a twig (Trin Kashta).
2. Observe the movement and behavior of the oil droplet.[26]

Prognostic Interpretation[27]

Based on the oil droplet's movement

- Immediate spreading: Vyadhi is Sadhya (disease is curable).
- No spreading: Vyadhi is Kashtasadhya (difficult to treat).
- Sinking to the bottom: Vyadhi is Asadhya (incurable).

Movement of Tailbindu	Sadhyasadhyata
Spreads immediately	Sadhya vyadhi (curable)
Dose not spread	Kashtasadhya vyadhi (difficult to treat)
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.[28]

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

Involvement of the Dosha in the Samprapti pf vyadhi can be identify by tail bindu pariksha it is as follows.[29]

Shape of tail bindu	Dosha involved in Samprapti
Sarpakara (Snake)	Vata
Chatrakara (Umbrella)	Pitta
Mukta (Pearl)	Kapha

Prognosis based on the shape of the Tail Bindu reveals significant insights. In cases where the Tail Bindu resembles harmful or destructive forms, such as Hala (axe), Kurma (tortoise), Sairibha (buffalo), Krand Mandala (honeycomb), Shiroheena Nara (headless human body), Shastra Khadga (sword), Sara (arrow), Gatra Khand (body part), Mashala Patti (spear with Masoor dal shape), Laguda (stick), or Trichatuspata, it indicates Asadhyata (incurability) of the disease. Conversely, shapes symbolizing harmony and balance, such as Hans (swan), Karanda (duck), Tadoga (dark green pumpkin), Karmala (lotus), Gaja (elephant), Charmara (fan made of grass), Chatra (umbrella), Torana (ornamental door arch), and Harmya (home), suggest Sadhya (curability) of the disease. Furthermore, specific shapes may indicate spiritual or familial afflictions. For instance, Chalani (sieve) suggests Kula Dosha, Nara Akara (human body) indicates Preta Dosha, and Mastaka Dwaya (human body with two heads) signifies Bhoot Dosha.[30]

DISCUSSION

Mutra Parikshan provides valuable insights into dosha balance, digestive health, metabolic functioning, kidney and urinary tract health, and systemic inflammation. Practitioners interpret findings to identify dosha imbalances, disease presence, and treatment efficacy. Clinical applications include diagnosing urinary tract disorders, monitoring diabetes and metabolic conditions, and assessing kidney function. Mutra Parikshan's integration with modern medicine enhances diagnostic accuracy.

The Dosha, Dhatu, Mala concept is a fundamental principle in Ayurveda. Mala formation occurs in the intestine, where Jatharagni digests food into Sara and Kitta. The absorbable Sara fraction nourishes Dhatu, while the unabsorbed Kitta splits into solid Purisha (expelled through Purishavaha Srotasa) and liquid Mutra (excreted via Mutravaha Srotasa). Abnormalities in Ahara Parinama (digestion, absorption, and excretion) can be diagnosed through Mutra Pariksha.

In Ayurveda, diagnosis relies on Roga Pariksha (disease examination) and Rogi Pariksha (patient examination). Mutra Pariksha has been used for diagnostic and prognostic purposes for thousands of years. It's an essential element of Ashtasthana Pariksha, encompassing clinical and laboratory examinations of Mala and Mutra. Although Brihatrayi doesn't systematically elaborate on Mutra Pariksha, scattered references relate it to physiological and pathological states, Purvarupa, and Rupa of diseases. In Samhita Kala, Mutra Pariksha employed Pratyakshya (direct observation) and Anuman Praman (inference). For Mutra Sangrahan (urine collection), collect mid-stream urine (Madhyadhara) before dawn's fourth Ghatika in a clean Kanch, Kansya, or Mrutika dish. Discard initial urine (Adyadhara). Examine the sample after sunrise in natural light.

Modern clinical pathology also recommends first-morning urine samples, as overnight collection in the bladder provides a representative sample for urinary pathology. This enables detection of minute pathogens. Sushruta's Shadavdha Priksha – Prashne (questioning), Chakshu (visual examination), Sparsha (tactile examination), Shrotra (aural examination), Ghrana (olfactory examination), and Rasana (taste examination) – guides Mutra Pariksha.

Mutra pariksha	Element
Prashne	Vedana, mutra daha, mutra praman, veg sankhya, Vibhakta mutra dhara
Chakshu	Appearance (bhasmodaka, Gorochana, shankhchurnavata) varna, accha, avil, anavil, raktipuya, varna
Sparsha	Ushna / sheet Sparsha (temp) of mutra, snigadhata, picchilata, vishada
Gharana	Madhu, vidgandha, nirgandha, amagandha
Rasana	Madhur, kshara, amla, lavana
Dosha vishesh	Dosha, Dosha prokopa
Abnormal constituents	Sarakta, sikta, sandrata, shakruta, dhatu (shukra rakta) vasa, puya
Vyadhi Vishesh	Vyadhi vishesh rupa related to mutra
Tailbindu	Sadhyasadhyata

During Chakshu Pariksha, microscopy facilitates a detailed examination, enabling the detection of abnormal sediments (Sikta, Sandrat), blood cells, pus cells, epithelial cells, and other anomalies. Additionally, Sparsha Pariksha benefits from modern instruments such as thermometers for measuring urine temperature, viscometers for assessing Snigadhata (viscosity), glucose tests for identifying Madhur Rasa (sweet taste), pH testing for determining Kshara Rasa (alkaline) and Amla Rasa (acidic), and bile salt and pigment analysis for Lavana Rasa (salty taste). A benzidine test confirms blood presence. Researchers at Banaras Hindu University, Varanasi, are standardizing Tail Bindu Pariksha. Their standardized protocol involves collecting the first morning urine sample, conducting the test 1 hour 36 minutes before sunrise, using an 8-inch diameter round glass petri dish, and dropping a 12 ul oil droplet from 1 cm height. Reference values for healthy individuals include spread time up to 30 seconds, split time up to 120 seconds, and uniform direction. By integrating traditional Ayurvedic methods with modern technology, Tail Bindu Pariksha becomes a valuable tool for prognosticating diseases in patients and assessing overall health.

CONCLUSION

Mutra Parikshan, an integral part of Ashtavidh Pariksha, offers a non-invasive, cost-effective diagnostic tool. By analyzing urine characteristics, Ayurvedic practitioners can gain valuable insights into an individual's health, enabling personalized treatment plans and preventive measures. Further research is necessary to standardize Mutra Parikshan procedures and validate its efficacy in various clinical settings.

Ayurveda, the ancient science of life, relies heavily on observational insights, complemented by laboratory investigations for diagnostic confirmation. In modern medical practice, urine examination plays a crucial role in diagnosis and prognosis. Interestingly, Ayurvedic practitioners have utilized laboratory investigations, including urine analysis (Mutra Pariksha), for thousands of years. Although Brihatrayi texts do not systematically describe Mutra Pariksha Vidhi, scattered references are available. Notably, Acharya Yogratnakara's Ashtasthan Pariksha provides a systematic explanation.

When examining urine from an Ayurvedic perspective, Sushruta's Shadvidha Pariksha proves invaluable. This six-fold examination encompasses Prashne (questioning), Chakshu (visual inspection), Shrotro (aural assessment), Ghrana (olfactory evaluation), Sparsha (tactile examination), and Rasa (taste analysis). Modern medical instruments and techniques can enhance this process.

Tail Bindu Pariksha, a cost-effective method, assesses disease prognosis and severity, guiding therapeutic planning. It also evaluates an individual's overall health. Given the vast potential of this field, further research is essential to explore its applications and contributions to Ayurvedic practice.

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