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Importance of Taila Bindu Mootra Pariksha to Diagnose Diseases in Modern Era

Dr. Nishant S. Taralkar[1], Dr. Anand V. Kalaskar[2],
Dr. Tejashree D. Kupekar[3], Dr. Ankeeta P. Dahiwale[4]
MD Scholar, PG Department of Rog Nidana Evum Vikriti Vigyan[1]
M.D. Kayachikitsa – Vikriti Vigyan (BHU) and Associative Professor[2]
MD Scholar PG Department of Rog Nidana Evum Vikriti Vigyan[3,4]
Sumatibhai Shah Ayurved Mahavidyalaya, Hadapsar, Pune, India

Abstract: *Taila bindu mootra pariksha, an ancient diagnostic technique mentioned in Ayurvedic texts, offers a unique and holistic approach to understanding disease pathology[1]. It involves observing the behaviour of an oil droplet on a patient's urine sample to infer dosha imbalances, metabolic irregularities, and disease prognosis. In the modern era, while advanced diagnostic tools like biochemical assays, imaging technologies, and molecular diagnostics are widely available, Taila bindu mootra pariksha remains relevant for its simplicity, cost-effectiveness, and non-invasive nature[2]. Recent studies have explored its potential as a preliminary screening tool in rural and resource-limited settings, emphasizing its value in early detection of metabolic disorders, kidney dysfunction, and urinary tract infections[3]. Integrating Taila bindu mootra pariksha with modern diagnostic techniques can enhance patient-centric care by combining traditional wisdom with evidence-based medicine. This paper reviews the method's clinical significance, historical context, and potential applications in modern diagnostic frameworks, suggesting avenues for future research[4].*

Keywords: Taila bindu mootra pariksha, Ayurveda, diagnostic techniques, dosha imbalance, modern medicine, integrative diagnostics

I. INTRODUCTION

In *Ayurvedic* texts, various methods have been described for diagnosing diseases and understanding the condition of a patient. These diagnostic methods are broadly classified into *Roga Pariksha* (disease examination) and *Rogi Pariksha* (patient examination). Techniques like *Ashtavidha pariksha*, *Dashavidha pariksha*, and *Dvadashavidha pariksha* have been mentioned in these texts. Among these, *Mootra pariksha* (urine examination) was a key laboratory investigative tool in ancient times and is included under *Ashtavidha pariksha*. One notable method, *Taila bindu mootra pariksha*, was widely practiced during the medieval period to predict the prognosis of a disease. This technique involves analyzing the movement and patterns formed by a drop of sesame oil when placed on a urine sample. However, its usage declined after the 17th century AD due to its crude methodology and the potential for observational variations.

Medieval *Ayurvedic* scholars developed *Taila bindu mootra pariksha* to predict the diagnosis and prognosis of diseases based on the direction and shape of the oil drop's spread. While *Ayurvedic* classics explain the procedure, the method requires standardization due to several variables, such as the size and shape of the vessel, the volume of urine, the size of the oil drop, the height from which the oil is dropped, the type of sesame oil used, and the timing of the test.

AIM AND OBJECTIVES

To study the relevance of *Taila bindu mootra pariksha* and its use in diagnosis of diseases in modern era.

II. MATERIALS AND METHODS

Though urine inspection has been accorded significant priority, characteristics of normal urine are not addressed individually in the writings from the medieval times. In *Ayurveda*, the detailed examination of urine plays a crucial role in understanding a patient's overall health and diagnosing diseases. By observing the colour, smell, clarity, consistency,

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quantity, and frequency of urination, *Ayurvedic* practitioners can gain insights into the balance of *doshas* and the presence of any underlying health issues.

We can draw the following conclusions from the descriptions included in the texts, which are dispersed among the several *ayurvedic* chapters

- ***Rasa*:** According to *Charaka* and *Sushruta*[6] *Rasa* of normal urine is *Katu* and *Lavana* and according to *Acharya Harita*[7], it is *Kshara*, *Katu* and *Madhura*.
- ***Gandha*:** Only Acharya *Kashyapa* has mentioned about normal *Gandha* of urine. According to him, normally urine is *Natigandhi* i.e an odour which is not irritating.
- ***Sparsha*:** *Ushna* (when freshly passed it is slightly warm), *Tikshna Guna* (can be attributed to *Agneya* predominance), *Apichhila* and *Aruksha*[8].
- ***Varna*:** Normally it is *Avivarnam* i.e., not having pathological colour. It refers to normal pale-yellow colour of urine[8]. Roughly indicates the degree of hydration and urine concentration.
- ***Ghanatwa*:** Normal urine is *Drava* (liquid), *Sara* (with low density) and *Laghu* (light)
- ***Parimana*:** Four *Anjali* is the normal *Parimana* of urine as described by *Charaka*.

Time of urine: All texts have stated that the urine collection should be done in the morning while *Yogaratnakara* and *Vangasena* have specified that the time should be when 4 *ghatikas* are left in the last *yama* of the night. This period on calculation comes to be about 1 hour 36 minute before sunrise. There is a rapid fall in the surface tension of urine before the so called static value is attained[9].

Specific Gravity of urine: Specific gravity measures the kidney's ability to concentrate or dilute urine in relation to plasma. Because urine is a solution of minerals, salts, and compounds dissolved in water, the specific gravity is greater than 1.000. The more concentrated the urine, the higher the urine specific gravity. An adult's kidneys have a remarkable ability to concentrate or dilute urine.

Surface Tension of urine: Surface tension is caused by the attraction between the liquid's molecules by various intermolecular forces. The cohesive forces between liquid molecules are responsible for the phenomenon known as surface tension. The surface tension of human urine is related directly to the specific gravity; the higher the specific gravity the lower the surface tension.

***Patra*/vessel of urine collection:** Various *patras*/vessel have been described for urine collection by the texts as - Glass or Bronze *Supatra* and *Shveta Kachamaye Patra*/vessel. The urine after collection has been told to be properly covered with a cloth

Oil: *Yogaratnakara* have specifically described the use of tila *taila* for *Taila bindu mootra parkisha* while other authors have merely mentioned the term *taila'*. Out of two types of *Tila* i.e. Black and white type, the black variety is more sutaible to be used as this variety is used for *Tail bindu mootra pariksha*[10].

Spread of urine drop: lf drop of oil spreads: Disease is easily curable. If drop of oil spreads slowly: Disease is difficult to treat. If drop of oil sinks: Disease in incurable.

Procedure of *Taila bindu mootra pariksha*

Take flat glass vessel, mark the eight directions surrounding a it. It should be kept plain surface in an area protected from air currents. Fill it up with urine sample up to the brim. Allow the *mootra* to settle in it. Drop a single drop of sesame oil from a height of two inches with the help of dropper. Observe how the oil drop behaves and moves, whether it spreads or drowns or floats on the urine and then conclusions are drawn.

The conclusions help the Vaidya in his diagnosis and treatment, the *granthakar* have categorically stated that only those *vyadhi* which are *sadhya* should be treated.

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Diagnosis by the examination of urine

A. Disease condition observed by position of oil drop[11]-

***Lakshana* / observation**	**Nishkarsha / conclusion**
Oil spreads	Sadhya vyadhi
Oil remains *sthira*, does not spread	Kashtasadhya
Oil drowns	Asadhya

B. Taila Bindu appearance (shape of urine drops)[12]

***Akara* / Shape**	***Nishkarsha* / conclusion**
Many holes punched in the drop of oil akin to a sieve.	*Kulaja vyadhi*
Oil drop appears like a serpant	*Vata dosha*
Oil drop appears like a umbrella	*Pitta dosha*
Oil drop having no particular shape	*Kapha dosha*
Hole in oil drop	Possessed by *pishachha*/demon

C. Disease condition observed by Shape of spreading oil drop-

Swan, pond, lotus, elephant, umbrella, gate or building - *Sadhya* Plough, tortoise, buffalo, honeycomb, sword, crossroad, a man without head –*Asadhya*

D. Prognosis observed by the direction of movement of the oil drop [13]-

***Disha* / direction**	***Nishkarsha* / conclusion**
Oil spreads to east	*Sukhasadhya*
Oil spreads to south	*Jwara vyadhi*, *kashtasadhyata*
Oil spreads to north	*Sukhasadhyata*
Oil spreads to west	*Sukha* and *arogya*
Oil spreads to *ishanya* / north east	Death within a month
Oil spreads to *agneya* / south east	Indicator of death
Oil spreads to *nairitya* / south north	Indicator of death
Oil spreads to *vayavya* / north north	Death shall occur definetly

E. Determination of *dosha* predominance according to *mootra varna*.

Mootra varna	***Dosha* predominance**
Pandur / whitish *varna*	*Vata*
Rakta varna	*Pitta*
Shweta varna	*Kapha*
Krishna varna	*Sannipataja*

Clinical Significance

Traditional Insights

Taila bindu mootra pariksha provides an understanding of *dosha* imbalances and disease prognosis. It was particularly used to assess the progression of chronic diseases, urinary abnormalities, and metabolic disorders.

Modern Applications

Recent studies suggest that this method can serve as a complementary diagnostic tool:

Screening in resource-limited settings: Its simplicity makes it ideal for preliminary screening in rural areas with limited access to advanced diagnostics.

Metabolic disorders: Studies correlate oil droplet behaviour with urinary markers of diseases such as diabetes and kidney dysfunction.

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Relevance in the Modern Era

1. Cost-Effectiveness and Accessibility

Taila bindu mootra pariksha is inexpensive, requiring minimal resources. This makes it particularly relevant in low-income communities where access to laboratory facilities is limited.

2. Holistic Diagnosis

The technique aligns with the growing trend of personalized and integrative medicine by focusing on systemic imbalances rather than isolated symptoms.

3. Complementary to Modern Tools

Taila bindu mootra pariksha can be integrated with modern diagnostic tools to enhance accuracy. For example, oil droplet patterns could complement urinary microscopy or
biochemical tests.

4. Research Opportunities

Modern research can validate the clinical utility of Taila bindu mootra pariksha.
Standardizing the methodology and correlating it with advanced biomarkers could enhance its scientific credibility.

II. DISCUSSION

Taila bindu mootra pariksha, an ancient ayurvedic technique rooted in the principles of mootra Pariksha, offers a unique perspective on disease prognosis. This method involves observing oil drops placed on the surface of urine to glean insights into an individual's health status. While promising, its reliance on extensive observations and skilled interpretation poses challenges in instant prognosis estimation for chronic diseases. Despite the absence of laboratory tests for immediate prognosis determination in Ayurveda, there's increasing interest in scientifically validating these traditional diagnostic methods within modern medical science. Through rigorous research, experts aim to assess the reliability and accuracy of Taila bindu mootra pariksha, paving the way for its integration into contemporary medical practices.

III. CONCLUSION

In precise word, Tail bindu Mootra pariksha can be used as tool for prognosis of disease. Prognostic assessment based on ayurvedic principals related to Tail bindu mootra pariksha will help in providing better medical care to the patients as treatment needs to modify with the status of disease. Since no laboratory test is available to instantly assess or forecast the prognosis of the diseases, this method which is very cost effective may be proved to be useful technique in this field. So research work is to establish results of Tail bindu mootra pariksha. Interpretation of the available literature related to diseases in light of scientific knowledge, which can pave the way for the assessment of prognosis of diseases in future.

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