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## A CROSS SECTIONAL STUDY OF ANALYSIS OF URINE AS THE DIAGNOSTIC TOOL FOR PRAMEHA-NIDAN

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### ABSTRACT

'Prameha' is a condition mentioned in Ayurveda wherein systematic explanations about the abnormalities occurring in urine and the clinical interpretations of same are elaborated. This cross sectional study on 120 patients revealed that the *Ayurveda* Parameters viz. *Mootrapramana* (quantity of urine excreted), *Mootra-Swaroop* (nature of urine), *Mootra-Varna* (colour of urine) and *Mootra-Sparsha* (temperature of urine) are the constructive tools to diagnose *Prameha* and its types.

**Key words:** *Ashtavidha Pariksha, Dashavidha Pariksha, Mootra Pariksha, Urine analysis, Prameha, Prameha-Nidan*

### INTRODUCTION

According to Ayurveda there are various ways to examine a clinical condition [1]. Also, there are several factors to assess the clinical condition. E.g. *Ashtavidha Pariksha* [2] - to examine 8 factors viz. *Nadi* (pulse), *Mutra* (urine), *Mala*(stool), *Jivha* (tongue), *Shabda* (voice), *Sparsha*

(touch), *Druk* (vision) & *Akriti* (built), *Dashavidha Pariksha* [3]- to examine 10 factors viz. *Prakruti* (constitution), *Vikruti* (abnormalities), *Sara* (status of Dhatu – tissues), *Samhanana* (built), *Pramana* (measures of vital factors), *Satva* (tolerance), *Satmya* (acceptability of

body), *Ahara Shakti* (capacity to consume the food), & *Vyayama Shakti* (physical strength). The solitary purpose of these examinations is to arrive at the appropriate diagnosis to treat the condition accurately. It is the fact that diagnosing and treating the cause of a disease is the comprehensive management of the disease.

‘*Prameha*’ is a condition mentioned in Ayurveda wherein systematic explanations about the abnormalities occurring in urine and the clinical interpretations of same are elaborated [4]. Along-with clinical examination the key diagnostic tools to be used to decide the type of *Prameha* are the factors related to Urine only. No other clinical features are explained as signs or symptoms [5]. Those which are explained are either prodromal symptoms or complications of the disease [6]. There are 20 types of *Prameha* described in

Ayurveda Classics due to vitiation of Vata, Pitta & Kapha, based on characteristics of urine excreted [7]. The primary criterion of diagnosis of *Prameha* is based on quantity of urine and frequency of urination [8]. When a person excretes excess quantity of urine than expected normal quantity which is 1 to 2 litres in 24 hours and also urinates more frequently than normal, it is called *Prameha* [9]. In a healthy Indian adult, 6-8 times in 24 hours is the normal frequency of urination [10]. In the current study an attempt is made to diagnose types of *Prameha* according to *Ayurveda*. For the same a pilot study is conducted to demonstrate the types of *Prameha* [11].

**Objective of the study:** To observe types of *Prameha* using *Ayurveda* parameters of urine examination.

#### LITERATURE REVIEW:

Types of *Prameha* –

Table 1: Types of *Prameha* mentioned in Ayurveda Reference books

Samhita	Charakasamhita	Sushrutasamhita	Ashtanga Hridaya Samhita
Types			
Kaphaja-10			
1	Udaka	Udak	Udak
2	Ikshu	Ikshuvalika	Ikshu
3	Sandra	Sandra	Sandra
4	Sandrapsad	Sura	Sura
5	Shukla	Pishta	Pishta
6	Shukra	Shukra	Shukra
7	Sheeta	Lavana	Sheeta
8	Sikata	Sikata	Sikata
9	Shanai	Shanai	Shanai
10	Aalala	Phena	Lala
Pittaja-6			
1	Kshara	Kshara	Kshara
2	Kala	Amla	Kala
3	Neela	Neela	Neela
4	Rakta	Shonita	Rakta

5	Manjishtha	Manjishtha	Manjishtha
6	Haridra	Haridra	Haridra
Vataja-4			
1	Vasa	Vasa	Vasa
2	Majja	Sarpi	Majja
3	Hasti	Hasti	Hasti
4	Madhu	Kshaudra	Madhu

Table 2 - Diagnostic Features of urine mentioned in classics as per type of Prameha

	कफज	वर्ण	स्पर्श	स्वरूप	गंध	रस	प्रमाण
१	उदक	सितम्	शीतम्	अच्छम्, उदकोपमम्	निर्गन्धम्	-	बहु
२	इक्षु	कांडेक्षुरस- संकाशं	शीतम्, ईषत्पिच्छिलम्	आविलम्	-	अत्यर्थ- मधुरम्	-
३	सान्द्र	-	-	पर्युषितं सान्दीभवति	-	-	-
४	सान्द्रप्रसाद	-	-	किंचित् संहन्यते, किंचित् प्रसीदति	-	-	-
५	शुक्ल	शुक्ल	-	-	-	-	अभीक्षण
६	शुक्र	शुक्राभ (स्फटिकाभ)	-	शुक्रमिश्र	-	-	-
७	शीत	-	शीत	-	-	अत्यर्थ- मधुरम्	भृशम्
८	सिकता	-	-	मूत्रगतान् मूर्तान् अपून् दोषान् मेहति	-	-	-
९	शनैः	-	-	-	-	-	-
१०	आलाल	-	पिच्छिल	तन्तुबद्ध, लालाइव	-	-	-
	<b>पित्तज</b>						
११	क्षार	क्षारवर्णी	क्षारवत्	-	क्षारगन्धी	क्षारवत्	-
१२	काल	मसीवर्णम्	उष्ण	-	-	-	अजस्रम्
१३	नील	चाषपक्षनिभम्	-	-	-	अम्ल	-
१४	रक्त	रक्तवर्ण	उष्ण	-	विस्र	लवण	-
१५	मज्जिष्ठा	मांजिष्ठोदक- संकाशम्	-	-	विस्र	-	भृशम्
१६	हरिद्रा	हरिद्रोदकसंकाशम्	-	-	-	कटु	-
	<b>वातज</b>						
१७	वसा	वसाभम्	-	वसामिश्र	-	-	-
१८	मज्जा	-	-	मूत्रेण सह मज्जा मेहति	-	-	-
१९	हस्ति	-	-	-	-	-	अजस्रं, भृशं
२०	मधु	पाण्डु	रूक्ष	-	-	कषाय-मधुर	-

Table 3: Characteristic features of urine in each type of Prameha - consolidated

Sr. No.	Type	Features of urine
1.	Udakameha	Clear, white, plenty, cold, odourless, watery,
2.	Ikshumeha	Sweet, cold, slightly slimy, turbid, slight greenish coloured
3.	Sandrameha	On stabilising overnight, precipitate is seen at the bottom
4.	Sandraprasad Meha	Mixture of precipitate and clear urine
5.	Shukla meha	White like mixed powder,
6.	Shukrameha	Resembling sperms or mixed with sperms
7.	Sheetameha	Excessive sweet
8.	Sikatameha	Urine containing substrates
9.	Shanai Meha	Dribbling
10.	Alameha	Sticky urine having saliva like appearance
11.	Ksharameha	Like kshara
12.	Kalameha	Black coloured, warmer than normal
13.	Nilameha	Like chasha pakshi, Amla
14.	Lohitameha	Foul smell, salty taste, warm, red coloured
15.	Manjishtha Meha	Orange coloured, foul smell

16.	Haridrameha	Dark yellow, Pungent taste
17.	Vasameha	Vasamishra,
18.	Majja Meha	Majjanam Saha
19.	Hastimeha	Excessive Urination
20.	Madhumemha	Dry, pale,

Table 4: Medicine for each type of diagnosed Prameha mentioned in Sushrutasamhita [11]

१.	उदकमेह	पारिजात कषाय
२.	इक्षुमेह	वैजयन्ति कषाय
३.	सान्द्रमेह	सप्तपर्ण कषाय
४.	सुरामेह	निम्ब कषाय
५.	शुक्लमेह	हरिद्रादारुहरिद्रा कषाय
६.	शुक्रमेह	दूर्वाशैवलप्लवहठकरञ्जकसेरुक, ककुभचन्दनकषायं वा
७.	लवणमेह	पाठाऽगुरुहरिद्रा कषाय
८.	सिकतामेह	चित्रक कषाय
९.	शनैःमेह	खदिर कषाय
१०.	फेनमेह	त्रिफलारग्वधमृद्धीका कषाय
११.	क्षारमेह	त्रिफला कषाय
१२.	अम्लमेह	न्यग्रोधादि कषाय
१३.	नीलमेह	शालसारादि, अश्वत्थ कषायं वा
१४.	रक्तमेह	गुडूचीतिन्दुकास्थिकाशमर्यखर्जूर कषायं मधुमिश्रम्
१५.	मञ्जिष्ठमेहा	मञ्जिष्ठाचन्दन कषाय
१६.	हरिद्रामेह	राजवृक्ष कषाय
१७.	वसामेह	अग्निमन्थ शिंशपा कषायं वा
१८.	मज्जामेह	कुष्ठकुटजपाठाहिङ्गुकटुरोहिणीकल्कं गुडूचीचित्रककषाय
१९.	हस्तिमेह	तिन्दुककपित्थशिरीषपलाशापाठामूर्वादुःस्पर्शा कषाय
२०.	मधुमेह	कदरक्रमुक कषाय

## MATERIALS & METHODS:

This study is carried out in the teaching hospital of BSDT's Ayurved Mahavidyalaya, Wagholi, Pune, on 120 individuals who were ready to participate in the study after informed written consent.

**Inclusion criteria:** The patients of either gender between the age group 18 years to 60 years having *Prabhoota-Avila*

*Mootrata* (excessive & turbid urine) for more than 30 days were included.

**Exclusion criteria:** Patients on drugs & diet which affect the quantity & colour of urine e.g. excessive water consumption, diuretics, Vitamin B complex, beetroot, sugarcane juice, coconut water, regularly consuming alcohol were excluded also the patients suffering from urinary tract infection, known patients of Benign

Prostatic Hypertrophy, known patients of cancer of prostate gland were excluded.

**Parameters for Assessment:** Urine output > 3 litres / 24 hours, frequency > 10 / 24hrs for at least last 30 days. Quality of excreted urine *Avila* (turbid), *Achcha* (clear), *Tantummatva* (thready), *Sandra* (sediment), *Mutra Varna* (colour of Urine) *Haridra* (yellow), *Manjishtha*(orange), *Ikshuvat* (colour resembling the sugarcane i.e., light green), *Rakta* (red), etc. On the basis of these classical parameters the type of *Prameha* was diagnosed [12].

**Lab Investigations** - Blood sugar levels - Fasting & post meal, chemical & microscopic examinations of urine were carried out.

**Observations:** This study was an attempt to find out types of *Prameha* based exclusively on classical Ayurved parameters of *Prameha*. The parameters described in *Ayurved* classics are *Varna* (Colour), *Sparsha* (temperature), *Swaroopa* (nature) & *Pramana* of *Mootra* (quantity of urine excreted).

Out of 120 patients enrolled, 19 were of *Sandrameha*, 17 were of *Alalameha*, 15 were of *Shuklameha*, 14 each were of *Haridrameha* & of *Madhumeha*. 11 were of *Udakameha*, 10 were of *Sandrprasada*. 7 were of *Ikshumeha*. *Shanairmeha*, *Ksharameha* & *Sarpimeha* were found in 3 patients each.

*Phenameha* was found in 2. *Rakta* & *Manjishtha* were found in 1 patient each.

Agni - the digestive capacity: In 112 patients, Agni was *Vikruta*. In 66 cases it was *Manda*. In 29 cases it was *Vishama*. In 17 cases Agni was *Tikshna*. Only 8 patients reported *Sama-Agni* - the normal status of digestive capacity. There is a vicious cycle between *Agni* & *Vikruta Kapha*.

The chemical examinations of urine revealed no presence of abnormal substances like pus cells, blood cells, bacteria etc., in urine samples.

## DISCUSSION

*Manda Agni* is responsible for *Doshasanchiti* (accumulation of *Dosha*). Because of which the *Pachana Kriya* (digestion) is affected [13]. *Kledvruddhi* (excessive unwanted moisture) occurs [14]. Ultimately the person becomes prone for *Prameha*. According to *Ayurveda* understanding of digestion and metabolism of food, the urine is separated during digestion as the liquid waste part of completely digested food [15]. During digestion, if the separation of urine is not properly done i.e. if it is separated with undigested particles in it, the formed urine becomes *Saama* - improperly formed from undigested food. Thus, *Sara-Kitta Vibhajana* (separation of essence and

waste) from the food may result in variation in the nature of the urine [16].

*Swaroopa* (nature) of Mootra - clear urine is considered as the normal urine. In *Prameha* it becomes turbid. It may be due to the presence of suspended particles present in urine due to involvement of [17] excessive *Kapha Dosha* in case of *Prameha*, excess and inappropriate *Meda* and *Mamsa Dhatu* in the body of patient of *Prameha*. *Pishtanibha Mootra* - cloudy urine may be due to *Shweta Varna* of *Kapha Dosha*. *Tantubaddh* - thread-like urine, *Lala-Iva Swaroopa* - sticky urine is due to *Snigdha* (unctuous) property of excess *Kapha Dosha*. *Sandribhavana* - precipitation in urine on stabilizing is due to *Guru* (heaviness) and *Sthira* (stable) properties - of *Kapha Dosha*. *Varna* in various samples indicates the characteristic feature of vitiation in *Teja Mahabhuta* which points to *Pitta-predominance* resulting variation in the colour of the urine, especially in cases of *Pittaja Prameha*.

*Mootra Rasa* - taste of the urine - It was practically impossible to do *Rasaparikshana* (taste of Patients' urine). So it was not included in this study. Same was in case of *Mootra Gandha* - examination of urine smell - Practically it was difficult to assess this subjective

parameter. So this aspect was not the part of this study.

## CONCLUSION

The *Ayurveda* Parameters viz. *Mootrapramana* (quantity of urine excreted), *Mootra-Swaroopa* (nature of urine), *Mootra-Varna* (colour of urine) and *Mootra-Sparsha* (temperature of urine) are the constructive tools to diagnose *Prameha* and its types. On the basis of the present cross sectional study an evidence for elementary signs & symptoms of *Prameha* - '*Prabhoota-Avila Mootrata*' - (excess & turbid urine) is re-established.

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