



# CONCEPTUAL ANALYSIS OF PURISHA PARIKSHA

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## Abstract

According to Ayurveda, Dosha, Dhatu and Mala are considered 'moola' of the body. The body is formed and maintained by their balance. Mala, in terms of Mutra, Purisha, and Sweda, are the waste products of Anna rasa. The traits of Mala, Dhatu, and Dosha change under any pathological condition. Acharya Yogaratnakara mentioned Mala Pariksha, one of the Asthasthana Pareeksha. When a person is suffering from diseases, changes can be seen in the Mala. By observing these changes, a diagnosis can be established, or they can be used as aids in diagnosis. The changes pertaining to Purisha (stool) have been documented in Brihatrayi under a variety of disease circumstances, even though they are scattered. The six-fold examination known as Sushruta's Shadvidha Pariksha will give first-hand information about changes in stool and serve as a diagnostic tool. Jala Nimajjana Purisha Pariksha is another tool for determining the status of Agni and understanding the Saama and Niramavastha of Purisha Mala. Modern aspects of stool examination provide detailed descriptions of physical, chemical, and microscopical changes.

**Keywords:** Mala, Jala Nimajjana Purisha Pariksha, Shadvidha Pariksha, stool examination.

## INTRODUCTION

In Ayurveda, Dosha-Dhatu-Mala concept is important to understand the body functions. Acharya Charaka defined Mala as "Malinikaranath Ahara Malatvat Malah Mrujyathe Shodhyathe Anena Iti Malah"<sup>1</sup> The components being waste products of food that have the tendency to contaminate other bodily constituents are referred to as mala; those, after being expelled from the body, aid in the body's purification. Mala are divided into two major entities that is Sharirika Mala (body waste) and Dhatu Mala (metabolic waste). Sharirika Mala are Trimala i.e. Mutra, Purisha, Sweda and Dhatu Mala are seven corresponding to Saptadhatu.<sup>2</sup> Since the time of Acharya Yogaratnakara, Mala Pariksha has been emphasized as an essential

assessment tool among Astasthan Pariksha.<sup>3</sup> The changes pertaining to Purisha (stool) were previously mentioned in Samhita Kala in a scattered manner in the symptomatology of various diseases.

In Ayurvedic texts, examination of stool is limited mainly up to the examination of physical characteristics such as color, quantity, odor, froth, and consistency. Besides these, a specialized technique of stool examination, i.e., Jala Nimajjana Purisha Pariksha has been described to detect the presence of Ama which determines the status of Agni in the body.<sup>4</sup> In modern science, stool examination is a significant diagnostic method that offers in-depth information on the changes that are occurring on the physical, chemical, and microscopic levels.

The descriptions related to Purisha were methodically gathered by a thorough analysis of all three of Brihatrayi along with contemporary science. These observations were critically analyzed and grouped under specific headings under the Sushruta's Shadvidha Pariksha (6-fold examination) with modern parameters to provide the first-hand information about the diagnosis of diseases.<sup>5</sup>

### Formation of Purisha

Purishavaha Srotas is the site of formation and excretion of Purisha.<sup>6</sup> Pakavashaya (large intestine) and Sthula Guda (anal canal) are the moola of Purishvaha Srotas. Purisha Dhara Kala plays vital role in formation of Purisha. Purisha Dhara Kala is also called as "Mala Dhara Kala".<sup>7</sup> After digestion, the Sarabhaga (nutrient portion) gets absorbed and the remaining undigested part becomes solid and that is called as Purisha.<sup>8</sup>

### Characteristics of Purisha

Stool examination has been given due importance in the context of diseases, but physical characteristics of normal stool, such as Gandha (odour), Sparsha (touch), Varna (colour), and Vaishadya (unstickiness/clear), are not described separately in classics. Acharya Charaka described Sapta Anjali Pramana as the Pramana (quantity) of Purisha.<sup>9</sup>

### Characteristics of normal stool

- **Color**- light to dark brown due to presence of bile pigments
- **Consistency** -In adult, the stool is well formed i.e., neither too hard nor too soft (about the consistency of a ripe banana)
- **Odor** -pungent smell which is caused by indole and skatole which are formed by bacterial fermentation and putrefaction.
- **Frequency** - one to two per day and its painless
- **Amount** - Normal amount of feces in an adult is 100-200 g per day<sup>10</sup>

### Importance of Purisha Pariksha / Stool examination<sup>11</sup>

Purisha pariksha gives information about various physiological and pathological states of the body such as;

- **Status of the Agni** (digestive fire) - determines the digestion and absorption of nutrients; likewise, in modern science, steatorrhea indicates fat-malabsorption.
- **Symptoms of abnormal Doshas**, e.g., Krishna Varna of Purisha, denote the involvement of vitiated Vata Dosha in the similar way Malena (black coloured stool) is suggestive of gastrointestinal bleeding.
- **Presence of Krimi**, a worm infestation.
- **Prognosis of disease**: differentiating various infecting organisms, such as bacterial, viral, or protozoal, helps in understanding the severity of the condition and its management.

## METHOD OF EXAMINATION

There are two methods of Purisha Pariksha described in Ayurveda

- Based on the Lakshana, i.e., Varna, Gandha, and the presence of Krimi in the Purisha. In the current era, physical examination and microscopic examination of stool gives the similar description.
- Jala Nimajjana Purisha Pariksha to detect the presence of Ama. In a similar way, the chemical examination of stool can be understood with advanced techniques.

### Physical examination/ macroscopic examinations

Shadvida Pariksha is a great tool in understanding the physical characteristics of Purisha. Under the various diseases in Brihatrayi, as well in contemporary science the physical changes in stool have been described in detail.

#### 1. Chakshurendriya Pariksha / (Inspection)

##### ▪ COLOR

Table: 1 - Change in color of stool in various diseases

Color of Stool	Dosha Involved	Diseases in Ayurveda	Diseases in Contemporary science
Krishna Varna (Black/ Malena)	Vata	Pittaja Atisara Kumba Kamala Vataja Gulma Vataja Arsha Vata prakopa	Upper GI bleeding; <ul style="list-style-type: none"> <li>• Peptic Ulcers, Chron's diseases (CD)</li> <li>• Liver cirrhosis - esophageal varices</li> <li>• Intestinal obstruction;</li> <li>• Abnormal GI motility</li> </ul>
Shyava, Aruna Varna (Grey/Reddish Color)	Vata	Vataja Atisara Vataja Jwara Vataja Udararoga Vataja Gulma Vataja Arsha Vataja Pandu	<ul style="list-style-type: none"> <li>• Ulcerative colitis (UD) (red)</li> <li>• Hepatitis A (grey)</li> <li>• Carcinoma of ampulla of vater (grey/silvery)</li> </ul>
Shukla Varna (Clay-colored stool)	Kapha	Shakhasrita Kamala Kaphaja Pandu Kaphaja Gulma Kaphaja Jwara Kaphaja Udararoga Kaphaja Arsha Kaphaja Atisara Kaphaja Visarpa	Liver pathology; <ul style="list-style-type: none"> <li>• Jaundice</li> <li>• Hepatobiliary obstruction</li> <li>• Hepatitis B, Hepatitis C</li> </ul>
Rakta Varna (Blood in stool/ Haematochezia)	Pitta	Kamala Rakta pitta Sahaja Arsha Pittaja Atisara Chidrodara	Lower GI bleeding; <ul style="list-style-type: none"> <li>• Anal fissure</li> <li>• Haemorrhoids</li> <li>• Proctitis</li> <li>• Tumours</li> <li>• Haemorrhagic colonic Diverticulum</li> <li>• Angiodysplasia</li> </ul>

**FROTH**

Table: 2 - Presence of froth

Froth	Dosha involved	Diseases in Ayurveda	Diseases in Contemporary science
Phena Presence of froth (Steatorrhea)	Vata	Vataja Arsha Vataja Atisara Vataja Grahani	<ul style="list-style-type: none"> <li>• Celiac disease</li> <li>• Fat Malabsorption</li> <li>• Exocrine pancreatic insufficiency, bile insufficiency</li> </ul>

**CONSISTENCY**

Table: 3 - Changes in consistency of stool in various diseases

Consistency of Stool	Diseases in Ayurveda	Diseases in Contemporary science
Sandra (Dense)	Kaphaja Atisara Sahaja Arsha	Fecal impaction Haemorrhoids
Badda / Vibaddha (hard solid)	Vataja Prameha Udararoga Baddhodara Purishavrita Vata Tikshnagni Vataja Jwara Sahaja Arsha Vataja Arsha Vataja Atisara Vataja Visarpa Mahaswasa Asadhya Pandu	Diabetes Mellitus (Neuropathy) Cystic Fibrosis Intestinal stricture, Anal stricture Hirschsprung disease Endocrine disorder like Hypothyroidism Dehydration in Fever Haemorrhoids Celiac disease Inflammatory Bowel Syndrome (IBS-Constipation)) Scleroderma other Neurological conditions
Drava (watery)	Pittaja Arsha Vataja Grahani Mandagni Asadhya Atisara	Inflammatory Bowel Disease (IBD) or Irritable Bowel Syndrome Lactose/protein intolerance GI infection, amoebic dysentery
Bhinna (loose)	Pittaja Arsha Kaphaja Grahani Kshyaja Kasa Kaphavrita Apanavayu Piitaja Murchha Vega Sandharanajanya Yakshma Arsha samanya Lakshana	Chronic Pancreatitis IBD or IBS (UC, CD) Respiratory tract infection Intestinal TB Severe and chronic gastritis Traveller's diarrhoea Microscopic colitis
Shushka (dry)	Vataja Grahani Sahaja Arsha	Faecal impaction Chronic constipation (excessive water absorption)

## 2. Ghranendriya Pariksha

Table: 4 - Changes in odor of stool in various diseases

Odour of Stool	Diseases in Ayurveda	Diseases in Contemporary science
Durgandita (foul smell)	Asadhya Sannipataja Chardi Ama Purisha Purishavaha Srotodusti Vid Vighata Kaphaja Atisara Pittaja Pandu	Giardiasis Enteritis Undigested food particles Chronic Pancreatitis
Visragandi (smell of raw meat)	Pittaja Arsha Kaphaja Atisara	Malena due to rotten, iron/metabolic blood
Atidurgandita	Pittaja Atisara Pittaja Arsha	Steatorrhea
Amagandhi	Amatisara	Dysentery (mucus with blood)
Kunapagandhi (smell of cadaverine)	Chhidrodara Sahaja Arsha	Anorectal abscess Fistula
Kunapa, Puya, Ama Matsyagandhi	Sannipataja Atisara	Infection Inflammation, Food poisoning
Mahatputigandhi	Jalodara	Ascites
Nirgandha or Sagandha	Agantuja Atisara	Acute Gastroenterities

## 3. Sparsha Pariksha

Table 5: Change in touch perception of stool in various diseases.

Type of Sparsha	Diseases in Ayurveda	
Sheeta	Ajirna Kaphaja Atisara	
Ushna	Pittaja Atisara	
Snigdha	Kaphaja Atisara Kaphaja Arsha	Crohn's disease
Ruksha	Vataja Jwara Vataja Atisara	Intestinal obstruction

## Prashna Pariksha (Interrogation)

Prashna Pariksha provides information about the patient's condition, including the frequency and amount of stool as well as any related symptoms like pain.

Table: 6

Quantity/ Frequency of Stool	Diseases in Ayurveda	Diseases in Contemporary science
Alpa (less in quantity)	Sannipataja Jwara, Pandu, Vataja Atisara, Vataja Pakwa Atisara, Purishavaha Srotodusti, Devonmatta Purusha	Pencil-thin stool (narrowing of large intestine) Celiac disease, Fever

Atipravritti (more frequency more quantity)	Pittaja Atisara, Amatisara, Sannipataja Atisara, Asadhya Atisara	IBS –D, Enteritis
Alpa Alpa (less in quantity and frequency) Sanga (less frequency)	Vataja Atisara, Kaphaja Atisara, Pravahika, Vataja Grahani, Chhidrodara, Purishavaha Srotodusti Vataja Gulma, Apana Vayuvrudha, Atisara Purvarupa, Shuska Yoni, Udararoga, Asamyak Virechana, Vata Asthila, Mutra Jatara, Baddodara	IBS & IBD Intestinal obstruction GI motility disorders Dehydration Hydronephrosis
Muhurmuhu (frequent)	Vataja Grahani, Vataja Atisara	Irritable Bowel Syndrome
Bheda (loose)	Kshayaja Yaksma, Ayathabala Samarambha Janya Yaksma, Vegasandharana Yaksma	Chronic Pancreatitis Traveller's diarrhoea
Krichhra Mala Pravritti (passing stool with difficulty)	Vataja Asmari, Vid Vighata, Amashaya Krudha Vayu, Pakwashaya Kruda Vayu	Renal calculi GI-motility disorder Chronic constipation
Sashabda mala pravritti (passing stool with sound)	Vataja Arsha, Ama Atisara, Purishavaha Srotodusti, Purisha Kshaya Vataja Grahani	IBD-IBS Traveller's diarrhoea

### Type of pain during defecation in various diseases

Table 7

Type of pain	Diseases in Ayurveda	Diseases in Contemporary science
Sashula (with pain)	Amatisara	Acute gastroenteritis
Sashula Sadaha (with pain and burning)	Pittaja Atisara	Ulcerative Colitis Internal haemorrhoids
Parikarita (gripping pain)	Vataja Atisara	IBS Anal fissure
Pravahana (tenesmus)	Pravahika	Impaired Recto-anal inhibitory reflex IBS-IBD
Shula, Gudasrava (discharge from anus with pain)	Jalodara	Ascites
Chirat Dukham (passing with difficulty)	Vataja Grahani	IBS, IBD Motility disorders
Sashula Pravahana (tenesmus with pain)	Kaphaja Arsha Kaphaja Atisara Pravahika	External haemorrhoids Ulcerative colitis
Kuntana (painful strain)	Sama Atisara Vishamagni	Secretory diarrhoea (cholera)

## Microscopic examination

Microscopic examination reveals presence of following organisms, their parts, related eggs Protozoans, Nematelminths, Platyhelminths, Plant cells and fibres, Crystals Fat globules, Bacteria, Erythrocytes Pus cells.

## JALA NIMAJJANA PARIKSHA (Examination of stool by dipping in water)

Jala Nimajjana Pariksha is used to detect the presence of Ama in Purisha. It is the only objective parameter which was used in ancient time. Ama is considered as an important cause not only for the gastrointestinal disorders but also as the cause of many systemic diseases such as Jvara and Amavata. Jala Nimajjana Purisha Pariksha is a unique methodology that was utilized to identify the early presence of Ama. In this method, by observing the behaviour of stool, i.e., whether it sinks or floats in water is noted down. If stool sinks, it indicates the presence of Ama. If it floats, then Ama is absent in stool.<sup>12</sup> This test cannot be performed in certain cases, such as when the stool is very cold, too dry or watery, or vitiated by Kapha.<sup>13</sup>

## Chemical examination

### A. pH: Normal pH ranges from 6.0 to 7.2.

Excessive consumption of carbohydrates causes stools that are highly acidic (pH <6), while an excess of protein in the diet causes stools that are strongly alkaline (pH > 7.2).<sup>14</sup>

### B. Occult blood: Blood that is invisible to the naked eye is considered occult.

The presence of blood in the stool indicates that the digestive tract is most likely bleeding. It may cause by a variety of conditions, including hookworms, amoebiasis, ulcerative colitis, intussusception, cancer of colon or rectum, peptic ulcer, gastritis, esophageal varices etc.

Test for detection of occult blood in feces are- Benzidine test, Guaiac test, Orthotolidine Test.<sup>15</sup>

### C. Excess fat excretion (malabsorption)

Normally very little fat is excreted in feces (>7g/day in adults).

Excess excretion of fecal fat indicates malabsorption and is known as steatorrhea. It manifests as bulky, frothy, and foul-smelling stool. It caused by certain conditions including chronic pancreatitis, cystic fibrosis, severe liver disease, tropical sprue, Whipple's disease.

Test for fecal fat is Qualitative (direct microscopic examination after fat staining) and (Quantitative – gravimetric or titrimetric analysis).<sup>16</sup>

## DISCUSSION

Ayurveda considers Dosha, Dhatu, and Mala as foundation of the body.<sup>17</sup> They are important for normal physiology of the body and each of them carries specific functions. Mala is produced as a by-product of metabolic activities. If Mala is not excreted from the body, it hampers normal bodily functions.

Purisha Pariksha has been given due importance in the ancient period, and it has been described in Asthasthana Pariksha. One of the body's primary metabolic products, Purisha, exhibits changes in its characteristics, which may be used to diagnose various types of diseases or pathological conditions mentioned in classics as well as contemporary science.

Appearance of abnormal coloured stool indicates various pathological conditions. E.g Malena (black coloured stool) indicates the upper GI bleeding. The black coloured stool is due to the digested blood i.e. digestive enzymes and intestinal bacteria altering and degrading haemoglobin in the blood. Similar descriptions regarding abnormal Varna of Purisha are available in Samhitas, such as Krishna (black), Shyava (grey), and Aruna Varnas (reddish) in Vata predominant diseases, as vitiated Vata brings these colors. Likewise, Shukla Varna (white) is seen in Kapha predominant diseases

as Shukla Varna is the manifestation of vitiated Kapha. When Pitta is vitiated, it brings the changes Rakta Varna (red). [Table 1]

The frothy nature of stool is mainly due to the presence of excessive fat (Steatorrhea) commonly noticed in malabsorption. In Ayurveda, vitiated Vata brings Phenatva to the Purisha seen in conditions like Vataja Atisara and Vataja Grahani. [Table 2]

Hard stool (constipation) occurs commonly due to delayed GI motility causing excessive absorption of water in the stool. E.g in diabetes mellitus GI motility is affected as result of autonomic neuropathy. The observed Sandra (dense) consistency in diseases with a predominance of Kapha may be due to the Sandra Guna (dense quality) of Kapha. Diseases that primarily have a Vata predominance exhibit the Baddha/Vibaddha consistency; this is due to Shoshaka Guna of (absorptive quality) Vata. The liquid part of the stool is absorbed by the vitiated Vata (Kledamasha). When vitiated, Drava Guna of Pitta gives stool a Drava (liquid) consistency. [Table 3]

Due to altered pathological states of Agni (Mandagni) Ama is formed, which results in Amagandha Purisha seen in Amatisara. The vitiation of Pitta and Shleshma Doshas results in Visragandhi, or primarily in Paittika Arsha and Shleshmika Atisara. Kunapagandha is manifested when Tridoshas are vitiated and it is observed in the disease like Chidrodara. In anorectal infections, infiltration of macrophages causing an abscess (pocket of pus) mixes with feces, producing a cadaverine smell (Kunapagandha). [Table 4]

Changes in touch, such as Sheeta (cold), Snigdha (unctuous), Ushna (hot), and Ruksha (rough), can be an indication of vitiated Doshas. In Kapha predominant disorders, due to Sheeta and Snigdha Guna of Kapha, in Pitta predominant disorders, due to Ushna and Ruksha Guna of Pitta producing respective changes in the Sparsha of Purisha. [Table 5]

Frequent stools are usually seen in IBD (UC, CD)), are an outcome of mucosal damage caused by persistent inflammation and impaired epithelial barrier function, leading to hyperactivity of the colon. Atipravrutti of Purisha (frequent) is observed in Pitta-predominant diseases because of Sara (mobility) and Drava (liquidity) Guna of vitiated Pitta, accompanied by Ushna (hot) and Tikshna (Sharp) Guna. [Table 6]

In addition to the description regarding the physical abnormalities of Purisha mentioned in Samhitas, the Jala Nimajjana Pariksha describes an important method to determine the presence of Ama in Purisha that is elucidated in the context of diseases like Grahani and Atisara. This method is a definite and instant method to detect the presence of Ama in stool by observing the sinking and floating behaviour of the stool on water.

Jala Nimajjana Pariksha may reflect the chemical examination of stool in terms of its pH. An excess intake of protein alters the gut microbiome by increasing the population of bacteria. These bacteria break down the amino acids in proteins, resulting in the production of ammonia and other alkaline substances that lead to alkaline stools (pH > 7.2). Due to the alkalinity of the stool, it sinks into the water. On the other hand, a carbohydrate-rich diet causes the body to not absorb ferment in the colon, leading to acidic stool (pH < 6). This gas becomes trapped in the stool, making it float on water.<sup>18</sup>

Under microscopic examination various worm infestation can be observed. Some of the organisms shares similar morphological features mentioned in classics under the context of Purishaja Krimi. For example, Kakeruka (*Trichuris trichiura*), Makeruka (*Enterobius vermicularis* - pin worm, thread worm, seat worm), Sasurada (*Balantidium coli*), Gandupada (*Ascaris lumbricoides* - roundworm).<sup>19</sup>



## Conclusion

Considering Mala as one of the Moolas of the body, Mala (Purisha), being a waste product of food, contributes to maintaining the body's normal physiological function. Acharya Yogaratnakara elevated the abundant information regarding changes in Purisha in various diseases and prioritized Mala Pariksha under Astasthana Pariksha, followed by Nadi and Mutra. In addition to the physical characteristics, a unique method, Jala Nimajjana Pariksha, gives a quick review of the status of Agni, the presence or absence of Ama. The modern view of stool examination almost resembles ancient wisdom in subtle form. Giving importance to the Purisha Pariksha or stool examination, along with associated symptoms, allows one to infer the pathological conditions and aids in the diagnosis of diseases by avoiding unnecessary investigations.

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