EVALUATION OF MACROSCOPIC STOOL EXAMINATION IN AYURVEDA THROUGH MODERN PARAMETER

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ABSTRACT

The body is consisting of Dosha, Dhatu and Mala. Mala in terms of Mutra, Purish and Sweda are the waste products of Anna rasa. In any pathological condition the characters of Dosha, Dhatu and Mala gets altered. Among these factors, clinical examinations of Mutra and Purish have been described in Ayurveda. The methods of examination of stool have not been elaborately mentioned in ancient text of Ayurveda. In modern era, there is an urgent need to evolve a comprehensive method of stool examination as per modern parameters in accordance with principles of Ayurveda, so that this can be followed by the bedside of patients on clinical practice as well as in pathological laboratory. This is consisting collection of stool sample, examination and interpretation of the findings. Stool can be examined macroscopically on the basis of following parameters: colour, odour, consistency, presence of mucus, presence of bloated gas etc. Each of the parameters can be further interpreted on the basis of different clinical features of stool mentioned under Purvarupa, Rupa, Asadhyalaksna of different disease. This comprehensive approach towards stool examination will not only validate Ayurvedic principles on the basis of modern knowledge, this will also help in diagnosis, prognosis and treatment of diseases, as well as will be very useful to make differential diagnosis of a disease.

INTRODUCTION

In Ayurveda, Agni is the chief factor for maintaining the normal physiology in human body. The digestion absorption and metabolism are depended on the normal function of Agni.[1] By the action of Agni Anna (food) undergoes metabolic transformation in two ways i.e. Prasad paka (transformation of nourishing part) and Kittapaka (transformation of waste product).[2] The Malas (waste products) of Anna (food) are Purish (stool) and Mutra (urine).[3] In different Ayurvedic texts stool has been termed as Vida, Purish and Mala.[4] The normal amount of Purish (stool) in human body is 7 Anjali.[5] The normal Mala is mildly offensive in odour, tolerable in temperature, formed in consistency and passes out in proper time.[6] It has been said that function of Purish is to support the body and maintain the equilibrium of Vayu and Agni.[7] As Purish vis-a-vis Mala is one of the essential component of Sarir (human body).[8] So in any pathological state character of Purish gets altered. So the examination of different characters of Purish gives a very important interpretation about the actual pathological state.

In classical text Mala Pariksha has been considered as an important tool of Rogi Pariksha i.e. examination of patient. Several methods of Mala Pariksha have been mentioned by different scholars. In Brhadatrayi hydrostatic examination of Mala has been mentioned.[9] In later period Yogratanakar has included Mala Pariksha under eight different process of clinical examination known as Astavidha Pariksha. In clinical practice Mala or stool should be examined for diagnosis as well as prognosis of disease. In modern science examination of stool is a very important component of pathological study of a disease. A stool test involves the collection and analysis of fecal matter to diagnose the presence and absence of clinical condition. In modern science stool examination consist gross macroscopical examination by naked eye as well as microscopic, biochemical and microbiological test. All these examinations are based on scientific criteria of stool which are globally accepted and maintained. In Ayurveda, Mala (stool) should be examined macroscopically and without help of any electronic equipment and chemical reagent. Although different pathological features of Mala (stool) has been elaborately described under the various pathological states, but unfortunately no specific guideline has been mentioned in relation to Mala Pariksha. Largely Mala Pariksha in Ayurveda is based on individual observation without having any standard parameters which can be
maintained globally. So for pathological examination of stool, a compact approach should be taken on the basis of some standard characters of stool in accordance with modern pathology.

**AIMS & OBJECTIVES**

The present study is aimed to evaluate a standard procedure of *Mala Pariksha* in Ayurveda in accordance with modern pathology. More over the present study will also try to evaluate some standard parameters on the basis of which *Mala* can be examined. Lastly the authors will try to prepare a comprehensive table regarding possible interpretation of every finding in accordance with principle of Ayurvedic diagnosis based on the book *Madhav Nidan*, which can be used at bed side of the patient by both students and professionals.

**MATERIALS AND METHODS**

Although Yogratnakar has described details procedure of collection and examination of *Mutra* (urine) under *Astovidha Pariksha*, unfortunately he has not mentioned any standard guideline of collection and examination of *Mala* (stool). As scientific collection of sample is the first and foremost condition for an accurate pathological test, so in absence of proper guideline of collection and examination of stool sample collection in Ayurvedic text a scientific procedure in accordance with modern pathology is proposed below.

**Process of Sample Collection**

Stool (preferably morning sample) should be collected in a clean transparent odourless glass container. After collection the container should be labelled with patient's name, age, sex, patient's ID number and date of collection. After collection examination should not be delayed for more than 4-6 hours. In between collection and examination the container should be stored in a cold and dry place away from sunlight.

**Examination of Stool**

The collected sample of stool should be examined under the natural sunlight and away from strong breeze. This is because presence of any artificial light gives a wrong impression regarding actual colour of stool and presence of strong breeze blows away the normal and abnormal smell of stool. Stool examination should be done preferably in *Pratakal* (morning) when adequate sunlight is available and surrounding atmospheric temperature is not too hot.

A comprehensive chart consisting parameters of stool examination, findings and their possible interpretation is hereby given below.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Findings</th>
<th>Possible interpretation</th>
</tr>
</thead>
</table>

In Ayurveda *Mala Pariksha* is done through direct observation using different *Indriyas* i.e., sensory organs like eye (*Darsanendriya*), nose (*Ghranendriya*), and touch (*Sparsendriya*). So in accordance with parameters of pathological macroscopic examination of stool, some standard parameters of stool examination in Ayurveda can be proposed. These are -

1. **Colour**
2. **Odour**
3. **Consistency**
4. **Presence of mucous**
5. **Presence of blood**
6. **Any special characters**

In accordance with Ayurvedic thought the above parameters can be compared as below.

**Colour – Varna**

**Odour – Gandha**

**Consistency (hard/semisolid/watery):** (Goadhya/ Vaddha)/ (Vinna-barcha/Vida-bhed) / Drava accordingly

**Presence of mucous:** presence of Slesma, Ama and Picchilatva.

**Presence of blood:** Raktyukta

Any special characters - Phena-yukta, Sita, Usna, Snidha, Sandra etc.

**Interpretation**

The findings of stool examination can be interpreted in relation with different pathological conditions. This interpretation will help us to diagnose a disease more precisely as well as to determine specific stages of a disease along with *Dosha Bhata* involvement, presence of complication (*Upadrava*) and to assess the morbidity (*Sadhyasadhyata*) of a disease.

Almost all the text of Ayurveda has described different pathological characters of stool in relation with various diseases. But among them, ‘Rogavinischaya’ by Acharya Madhavkar which is more commonly known as ‘Madhav Nidan’ stands tall. Madhav Nidan deals with diagnosis of a disease on the basis of *Panchanidan* (*Nidan-Purvarupa-Rupa-Upasaya-Sampapti*) as well as prognosis of a disease on the basis of *Sadhyasadhyata*. So in this interpretation of stool examination, the authors have followed the opinion of Acharya Madhavkar in relation with different characters of stool in various pathological conditions.
<table>
<thead>
<tr>
<th>Krishna (Blackish)</th>
<th>Vataja Arsa\textsuperscript{[18]}</th>
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<tbody>
<tr>
<td>Shukla (whitish)</td>
<td>Kaphaja Jwar\textsuperscript{[20]}</td>
</tr>
<tr>
<td></td>
<td>Kaphaja Atisara\textsuperscript{[21]}</td>
</tr>
<tr>
<td></td>
<td>Kaphaja Udar\textsuperscript{[22]}</td>
</tr>
<tr>
<td>Shyava (grey)</td>
<td>Raktajaarsa (Vata-anubandha)\textsuperscript{[23]}</td>
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<tr>
<td></td>
<td>Vataja Udar\textsuperscript{[24]}</td>
</tr>
<tr>
<td>Aruna (reddish-brown)</td>
<td>Vataja Udar\textsuperscript{[25]}</td>
</tr>
<tr>
<td></td>
<td>Vataja Atisara\textsuperscript{[26]}</td>
</tr>
<tr>
<td>Lohita (reddish)</td>
<td>Pittaja Atisara\textsuperscript{[27]}</td>
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<tr>
<td>Panduvarna</td>
<td>Kaphaja Arsa\textsuperscript{[28]}</td>
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<tr>
<td>Nila (blue)</td>
<td>Pittaja Atisara\textsuperscript{[29]}</td>
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<td></td>
<td>Pittaja Arsa\textsuperscript{[30]}</td>
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<tr>
<td>Swetapita (whitish-yellow)</td>
<td>Rakatarsa (Slesmaanubandha)\textsuperscript{[31]}</td>
</tr>
<tr>
<td>Nilapita (bluish-yellow)</td>
<td>Pittaja Grahani\textsuperscript{[32]}</td>
</tr>
<tr>
<td>Raktapita (reddish-yellow)</td>
<td>Kamala\textsuperscript{[33]}</td>
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<tr>
<td>Krishnapita (blackish yellow)</td>
<td>Asadhyalaksana of kamala\textsuperscript{[34]}</td>
</tr>
<tr>
<td>Shyaba-aruna</td>
<td>Vataja Udar\textsuperscript{[35]}</td>
</tr>
<tr>
<td>Harita (greenish)</td>
<td>Pittaja Arsa\textsuperscript{[36]}</td>
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<tr>
<td>Haridra (deep yellow)</td>
<td>Asadhyalaksana of Pandu\textsuperscript{[37]}</td>
</tr>
<tr>
<td>Nana-varna (multiple colour)</td>
<td>Pittaja Arsa\textsuperscript{[38]}</td>
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<td></td>
<td>Amaja Atisara\textsuperscript{[39]}</td>
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<tr>
<td>Odour (Gandha)</td>
<td>Durgandha/Visragandha (foul smelling)</td>
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<tr>
<td></td>
<td>Nirgandha/ Gandhavat (with/without bad smell)</td>
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<tr>
<td></td>
<td>Puti-pakva (foul smelling)</td>
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<tr>
<td>Consistency</td>
<td>Kathina/Gaadha (hard)</td>
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<td></td>
<td>Baddha (hard)</td>
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<td>Guru (heavy)</td>
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<td>Vinnavarcha (semi-solid)</td>
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</tbody>
</table>
| Presence of mucous | Amayukta (inadequately processed) | Vataja Atisara [91]
| | | Vatik Grahani [92]
| | | Kaphaja Grahani [93]
| | | Samgraha Grahani [94]
| | | Pittaja Arsa [95]
| | | Pittaja Arsa [96]
| | Pichaanugata | Slesmaja Atisara [97]
| | | Kaphaja Pravahika [98]
| | | Kaphaja Grahani [99]
| | | Kaphaja Arsa [100]
| | | Mrityvaksanaja Pandu [101]
| | | Asadhyalaksana of Pandu [102]
| | Slesma/Kaphayukta (mucous mixed) | Samgraha Grahani [103]
| | | Amayuktapurish [104]
| | Picchila (sticky) | Amayukta (inadequately processed) | Vataja Atisara [91]
| | | Vatik Grahani [92]
| | | Kaphaja Grahani [93]
| | | Samgraha Grahani [94]
| | | Pittaja Arsa [95]
| | | Pittaja Arsa [96]
| | | Slesmaja Atisara [97]
| | | Kaphaja Pravahika [98]
| | | Kaphaja Grahani [99]
| | | Kaphaja Arsa [100]
| | | Mrityvaksanaja Pandu [101]
| | | Asadhyalaksana of Pandu [102]
| | | Samgraha Grahani [103]
| | | Amayuktapurish [104]
CONCLUSION

Characters of stool vary significantly from normal to different pathological conditions. Study of these characters of stool is an important tool for diagnosis of a disease. In absence of advanced procedure of stool examination in Ayurveda, there is an urgent need to evolve a scientific clinical study of stool in accordance with modern pathology as well as keeping intact the Ayurvedic principles. The approach which has been taken in this present study will be very much helpful in this situation. The proposed parameters of stool examination in this study and their clinical interpretation will be very much useful for both students and professionals. But as Acharya Carak has once mentioned, characters of urine/stool cannot diagnose a disease single handed, there is need of clinical correlation with other prodromal features (Purvarupa) and presenting features (Rupa) of each disease before making a definite diagnosis.

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26. Ibid; Atisara Nidanam, Verse -6, pp.62.
27. Ibid; Atisara Nidanam, Verse -7, pp.62.
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32. Ibid; Grahani Nidanam, Verse – (11-12), pp.7.
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52. Ibid; Grahani Nidanam, Verse – (13-16), pp.70.
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58. Ibid; Jwara Nidanam, Verse -74, pp.58.
59. Ibid; Krimi Nidanam, Verse – (13-16), pp.94.
60. Ibid; Prameha Nidanam, Verse -19, pp.220.
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64. Ibid; Grahani Nidanam, Verse – (5-10), pp.66.
65. Ibid; Grahani Nidanam, Verse – (11-12), pp.70.
66. Ibid; Grahani Nidanam, pp.71.
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