

**A critical review of purishdhara kalaa**

<sup>1</sup>Dr. Suljeet Baranda, M.D. Scholar, PG Department of Rachana Shaarir, University College of Ayurved, Dr. S. R. Rajasthan Ayurved University, Jodhpur

<sup>2</sup>Dr. Rakesh Kumar Sharma, Associate Professor & Ex-HOD PG Department of Rachana Shaarir, University College of Ayurved, Dr. S. R. Rajasthan Ayurved University, Jodhpur

<sup>3</sup>Dr. Brahmanand Sharma, Associate Professor, PG Department of Kayachikitsa, University College of Ayurved, Dr. S. R. Rajasthan Ayurved University, Jodhpur

**Corresponding Author:** Dr. Rakesh Kumar Sharma, Associate Professor & Ex-HOD PG Department of Rachana Shaarir, University College of Ayurved, Dr. S. R. Rajasthan Ayurved University, Jodhpur

**Type of Publication:** Critical Review Paper

**Conflicts of Interest:** Nil

**Abstract**

Ayurved is a human life science which cares about the well-being of human body & its functioning. Acharya Sushruta has mentioned delicacies of human body structure in Shaarir Sthana. It gives information about the anatomical & physiological phenomenon of body. Kalaa is a significant structure referenced by Acharya Sushruta. He told seven types of Kalaas in the body named as Mamsdhara Kalaa, Raktadhara Kalaa, Medodhara Kalaa, Shleshmadhara Kalaa, Purishdhara Kalaa, Pittadhara Kalaa, and Shukradhara Kalaa. These form the boundary between Dhatu (Rasa, Raktadi) and Aashaya or the layer which isolates the muscle tissue from hole of organ.

**Purishadhara Kalaa** - This is the fifth Kalaa in sequence accommodated in Antah Koshttha between the last part of Laghwantra and starting part of Brihadantra situated in Unduka (caecum). The formation of Rasa, Mutra and Purisha takes place here. Formation of Mala happens furthermore in Pakvashaya. During this formation process, liquid from waste material is separated and the semi-solid part of the waste remains there.

**Keywords:** Kalaa, Purishadhara Kalaa.

**Introduction**

Shaarir Rachana (Anatomy) is the base of all the medical sciences as well Ayurveda. All theories of Ayurveda have its own importance. Kalaa is also an exclusive concept described by Acharyas. Kalaa Shaarir is an inevitable and important part of Ayurvedic Anatomy. Word Kalaa implies to the membranes of human body.

**“कलाः खल्वपि सप्त भवन्ति धात्वाशयान्तर मर्यादाः।”** Acharya Sushruta told seven types of Kalaas in the body named as Mamsdhara Kalaa, Raktadhara Kalaa, Medodhara Kalaa, Shleshmadhara Kalaa, Purishdhara Kalaa, Pittadhara Kalaa, and Shukradhara Kalaa. These are the layers forming the boundary between Dhatu (Rasa, Raktadi) and Aashaya or the layer which isolates the muscle tissue from hole of organ<sup>1</sup>.

## Definition of Kalas

“यथा हि सारः काष्ठेषु छिद्यमानेषु दृश्यते। तथा हि धातुमांसेषु छिद्यमानेषु दृश्यते॥

स्नायुभिः च प्रतिच्छन्नान् सन्ततां च जरायुणा श्लेष्मणा वेष्टितां च अपि कला भागांस्तु तान् विदुः॥”

Acharya Sushruta says that as the Kashtha (bark) of the tree covers the inner Sara part, same way Kalaas overlapped by Shleshma, Snayu and Aparas cover different types of organs in the body. Hence Kalaa is the boundary between Aashaya (the cavity) and Dhatu (the product in that cavity). As cutting wood exposes its inner structure, similarly excision of Mamsa gives the projection of inner Dhatus. These projected Dhatus are Rasa & Rakta etc. Kalaa is covered with ligaments, nerves, glands and membranes which are called Kalaa Bhagas<sup>ii</sup>.

“यस्तु धात्वाशयान्तरेषु क्लेदोऽवतिष्ठते यथास्वमूष्मभिविपक्वः स्नायु श्लेष्म जरायुच्छन्न काष्ठ इव सारो धातुसारः रसशेषोऽल्पत्वात्कला संज्ञः।”

According to Vagbhata – Kleda or moisture expounds in between Dhatu and its Aashaya. Processed by certain hormones (Ushma), Kleda gets transformed into Kalaa. It is called Kalaa because it is made up of small quantity of the substance of Dhatu or Dhatu Rasa which oozes out of Dhatu just like the liquid which oozes out when a fresh wood is cut. It is enveloped by Snayu (muscle fibres, ligaments and tendons) and Jarayu (membrane)<sup>iii</sup>.

**Types of Kalaa:** -There are 7 types of Kalaas mentioned in Ayurveda which are listed as below:

1. Mamsadhara Kalaa
2. Raktadhara Kalaa
3. Medodhara Kalaa
4. Shleshmadhara Kalaa
5. Purishdhara Kalaa
6. Pittadhara Kalaa
7. Shukradhara Kalaa

## Aims and Objects-

1. To study Purishdhara Kalaa as mentioned in Ayurvedic Samhitas and their commentaries.
2. To understand Kalaas in contrast with modern parameters.

**Material and methods-** The material is collected from the available literature in Ayurveda and modern medical science text books.

## Literature Review

### Purishdhara Kalaa

पञ्चमी पुरीषधरा नाम, याऽन्तः कोष्ठे मलमभिविभजते पक्वाशयस्था॥

यकृत् समन्तात् कोष्ठं च तथाऽन्त्राणि समाश्रिता। उण्डुकस्थं विभजते मलं मलधरा कला॥

The fifth Kalaa is called Purishdhara Kalaa (the membrane or layer which forms or holds stool or faeces). It is located within the Antah Koshta (abdomen) in Pakwashaya (large intestine).

This Kalaa, especially located in the large intestine within Antah Koshta (abdomen or hollows of the body), distinguishes the formation of Mala starting at Unduka. This simply means that the Purishdhara Kalaa is present in the large intestine

mainly in the Unduka or caecum (starting part of the large intestine). It receives fully digested or used food from the small intestine and absorbs the water from the digested food converting the remains as stool or faeces. This Kalaa is also named as 'Maladhara Kalaa'. (Mala=Purisha-Stool or faeces). Functionally, Purishdhara or Maladhara Kalaa may be considered as the large intestine as a whole including caecum, in particular with its inner layers and the process involved in the separation of essential and non-essential material i.e. water & Mala respectively<sup>iv</sup>.

Purishadhara Kalaa is situated just after the last portion of Laghwantra and the beginning of Brihadantra in the organ known as Unduka in the Antah Koshtha. The process of formation of Rasa, Mutra and Purisha occurs here. Vata and Agni are responsible for this method of formation. Mala formation takes place more in Pakvashaya as liquid material is absorbed here and the remaining material becomes a semi-solid portion of the waste<sup>v, vi</sup>.

Guda, the last part of large intestine is divided into two parts: Uttarguda and Adharguda. Uttarguda (Rectum), works as a store house for Purisha Mala which is evacuated from Adharguda (Anus) later on. Guda is the area of Apana Vayu. The process to reach at this level initially begins by the functioning of Vayu when food heads forward for digestion in small intestine. Later on for forward bowel movements (peristalsis), Samana and Apana Vayu play the important role<sup>vii</sup>. After this digestion process is over, Mala is formed in the Unduka because of this movement which later on enters Uttarguda travelling all through the colon, as a result Uttarguda gets expanded and after a certain level of expansion gets an impulse from nervous system mechanism for Purisha Mala to be evacuated. This impulse helps in generating Apana and Guda movements. As a result of it the contraction of the abdominal muscles helps to increase the pressure on Guda, which ultimately opens Adharguda (Anus) for the Mala to be evacuated. Stopping breath i.e. Udana Vayu for a particular period of time helps place further pressure on Guda. All these inter-connected functions contribute to the natural evacuation of Purisha Mala.

According to Ayurveda all this process of Mala formation & defecation is controlled by Purishvaha Srotas, the channel transporting faeces, which starts from Unduka and is located in colon and ano-rectal region. Whole of this Srotas is lined by Maladhara or Purishdhara Kalaa<sup>viii</sup>.

Purishdhara / Maladhara Kalaa forms the Mala. We have undergone this so far. Here Mala is named as Purisha or stool which is defaecated through anus.

But Acharya Charaka has mentioned that the food gets transformed into two forms i.e. Prasada (Ahara Rasa) and Kitta (the waste form). The Kitta part nourishes Mala or excretory products like sweat, urine, stool, excreta of the ear, nose, mouth, hair follicles, excreta of genital organs, scalp hair, beard, body hair, nails, etc.<sup>ix</sup>

From this point of view, all the Malas are derived from Kitta Bhaga. And this Kitta Bhaga is the substance which is ultimately named as Mala or stool furnished by Maladhara / Purishdhara Kalaa in Purishvaha Srotas starting from Unduka. This way as per Acharya Charaka's concept, all the Malas are generated by Maladhara Kalaa / Purishdhara Kalaa. Hence all the Malaas are formed either from Maladhara Kalaa in large intestine including caecum or in other words we can say that this Mala is the Moola for all the other Malas mentioned in Acharya Charaka's above mentioned reference.

Further we can assess that if other Malas are formed some where else then these too must be having Maladhara Kalaa which would be helping them to form that respective Mala. For example if urine is being formed in kidneys then it means that the nephron or in broad spectrum Vrikka (kidneys) too must be having Maladhara Kalaa to form Mutra. Similarly

Sveda Mala which is formed in Tvacha must also be having Maladhara Kalaa. Same way we can name other Malas being formed by virtue of their respective Maladhara Kalaas.

Maladhara Kalaa in large intestine mainly in Unduka is the basic Maladhara Kalaa. It starts functioning after the completion of the digestion process of food which is the base for the formation of other Dhatus. Later on when these Dhatus are processed, their Mala is also formed by their respective Maladhara Kalaas.

This way we can further elaborate Maladhara Kalaa existing at different places where ever the Kitta or Mala is being formed after the digestion of respective Dhatus. Though basic Maladhara Kalaa exists in Unduka and related part of large intestine as mentioned by different Acharyas.

**Formation Of Purisha:** After absorption & assimilation of food the remnant part reaches to the Pakvashaya, where it converts into semi-solid mass with extracting effect of Agni. Purishdhara Kalaa forms and holds the Purisha. Whereas Purishvaha Srotas transports faeces through minute channels.<sup>x</sup>

### Anatomical Co-Relation of Purishdhara / Maladhara Kala

**Large Intestine:** The large intestine reaches from the distal end of the ileum to the anus and is about 1.5 m approx. in length. It collects fluid and salts from the contents of the gut and forms faeces ultimately. It consists of the caecum, appendix, colon, rectum and anal canal<sup>xi</sup>.

**Caecum :** The caecum is a large blind pouch of the large intestine that lies below the ileo-caecal valve in the right iliac fossa and continues further as the ascending colon<sup>xii</sup>.

**Colon:** The colon extends from the caecum and consists of the ascending, transverse, descending, and sigmoid colon<sup>xiii</sup>.

Fig. 1: External features of Large intestine<sup>xiv</sup>

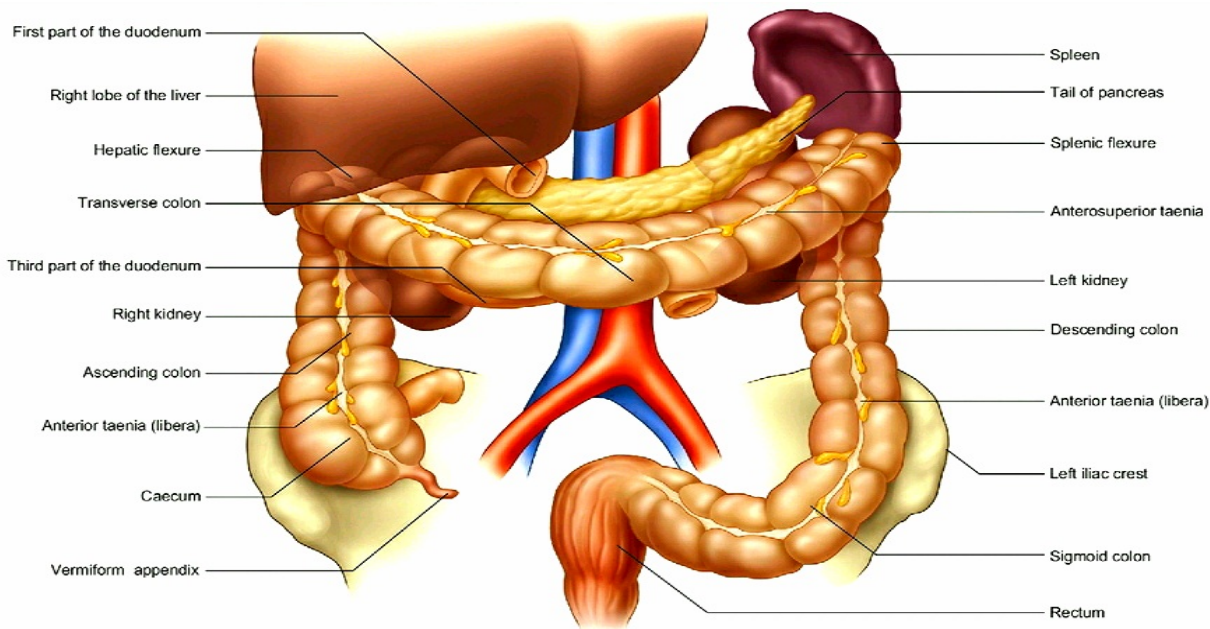


Fig.2: Internal features of Large intestine<sup>xv</sup>

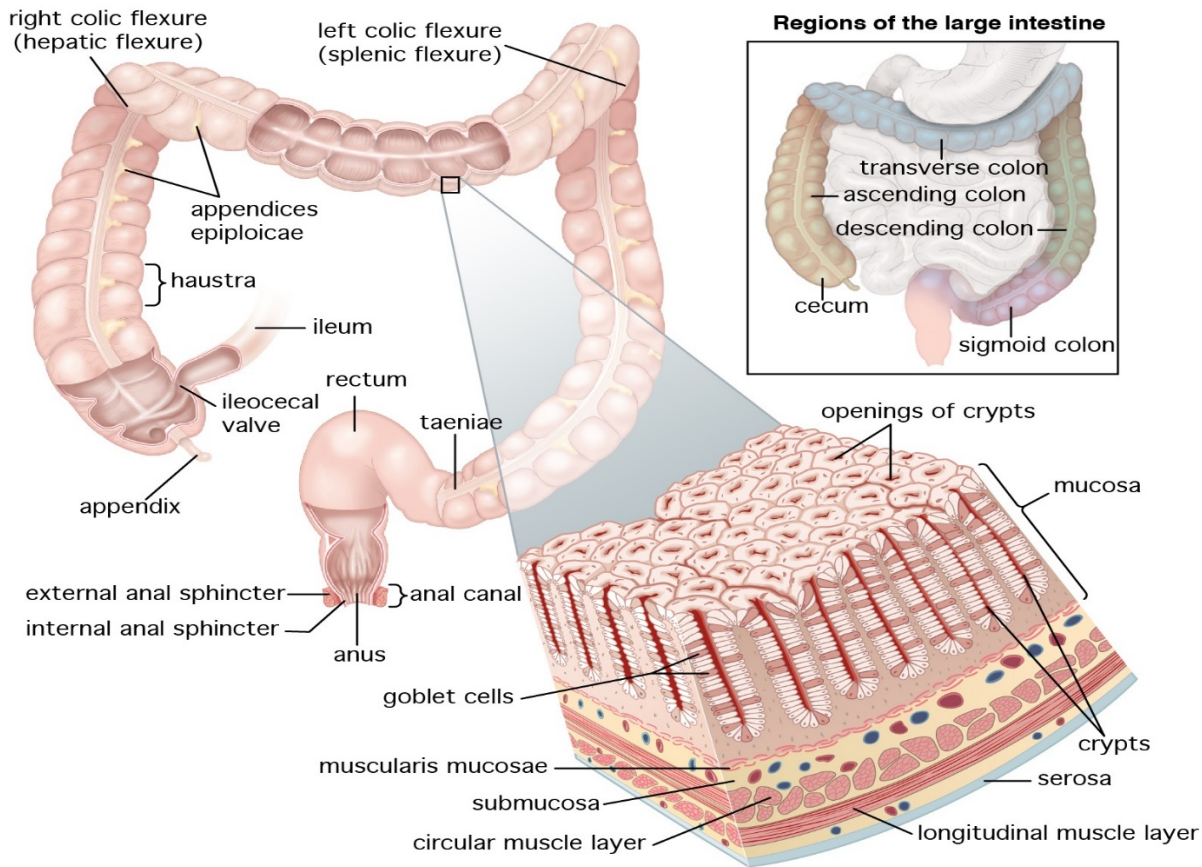
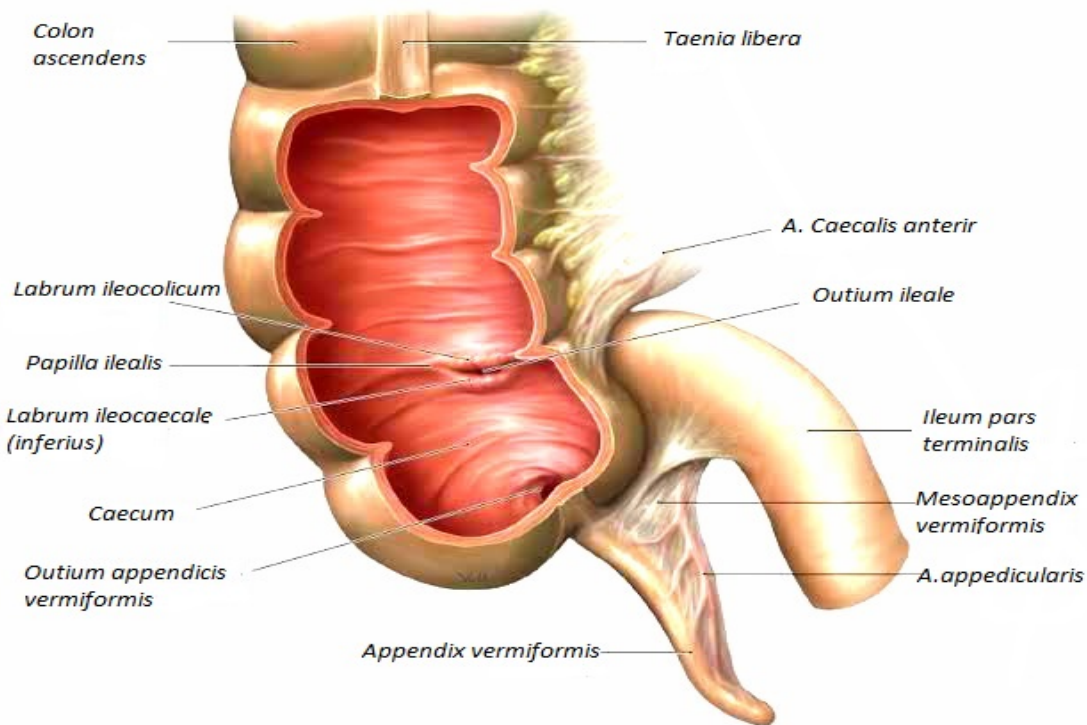


Fig. 3: Internal features of Caecum<sup>xvi</sup>



## Discussion

Purishadhara Kalaa can be considered as an anatomical structure with following features:

- It is an anatomical structure like a membrane, which is able to separate Purisha from the digested food (Pakva Aahara) and the organ where it is located is called Unduka.
- Its anatomical location is in Pakvashaya and Unduka (Pottalaka) is its part.
- It is below the physiological location of Pachaka Pitta (small intestine). In other words, it starts functioning after the digestion is over in Grahani.
- Its main function is the separation of Purisha from digested food.
- Apana Vayu regulates the expulsion of fecal matter and gases (which are not absorbed back into the blood).
- Ayurveda states that the function of fecal formation (along with gas formation) is done by Purishadhara Kalaa in Pakvashaya. Moreover, basic feature of Kalaa is to form a barrier between Dhatu and Aashaya. Therefore, Purishadhara Kalaa can be correlated with mucosa of large intestine from the caecum to sigmoid colon.

## Conclusion

Purishadhara Kalaa is the fifth Kalaa situated after the last part of Laghwantra and the beginning part of Brihadantra known as Unduka in the Antah Koshta. The formation of Purisha occurs here. Purishadhara Kalaa can be understood as the large intestine mucosa including caecum as it performs the function of stool formation and water absorption. It begins with Unduka (Caecum) and ends at Sigmoid Colon.

## References

- <sup>i</sup> Shastri, Ambika Dutta, *Sushruta Samhita Ayurveda Tattva Sandipika*, 1st Edition. Varanasi: Chaukhambha Sanskrit Sansthan; 2014. Vol. i, Shaarir Sthana Chapter 4 Shloka 5 Page No.38.
- <sup>ii</sup> Shastri, Ambika Dutta, *Sushruta Samhita Ayurveda Tattva Sandipika*, 1st Edition. Varanasi: Chaukhambha Sanskrit Sansthan; 2014. Vol. i, Shaarir Sthana Chapter 4 Shloka 6-7 Page No.38
- <sup>iii</sup> Kaviraj Atrideva Gupta, *Aatanga Samgraha* Shaarir Sthana Chapter 5 Shloka 34 Page No.300
- <sup>iv</sup> Shastri Ambika Dutta, *Sushruta Samhita Ayurveda Tattva Sandipika*, 1st Edition. Varanasi: Chaukhambha Sanskrit Sansthan; 2014. Vol. i, Shaarir Sthana Chapter 4 Shloka 16-17 Page No.40
- <sup>v</sup> Shastri, K. Chaturvedi G, *Charaka Samhita Vidyotini Tika*, 1st Edition. Varanasi: Chaukhambha Bharati Academy; Reprint year 2013. Vol. i, Vimana Sthana Chapter 5 Shloka 7 Page No.711
- <sup>vi</sup> Shastri, Ambika Dutta, *Sushruta Samhita Ayurveda Tattva Sandipika*, 1st Edition. Varanasi: Chaukhambha Sanskrit Sansthan; 2014. Vol. i, Shaarir Sthana Chapter 4 Shloka 16-17 Page No.40
- <sup>vii</sup> Shastri, Ambika Dutta, *Sushruta Samhita Ayurveda Tattva Sandipika*, 1st Edition. Varanasi: Chaukhambha Sanskrit Sansthan; 2014. Vol. i, Sutra Sthana Chapter 21 Shloka 10 Page No.115.
- <sup>viii</sup> Shastri, K. Chaturvedi G, *Charaka Samhita Vidyotini Tika*, 1st Edition. Varanasi: Chaukhambha Bharati Academy; Reprint year 2013. Vol. i, Vimana Sthana Chapter 5 Shloka 8 Page No.711.
- <sup>ix</sup> Shastri, K. Chaturvedi G, *Charaka Samhita Vidyotini Tika*, 1st Edition. Varanasi: Chaukhambha Bharati Academy; 2007. Vol. i, Sutra Sthana Chapter 28 Shloka 4 Page No.423.

<sup>x</sup>Shastri, K. Chaturvedi G, *Charaka Samhita Vidyotini Tika*, 1st Edition. Varanasi: Chaukhambha Bharati Academy; Reprint year 2007. Vol.2, Chikitsa Sthana Chapter 15 Shloka 11 Page No. 454.

<sup>xi</sup> GRAY'S ANATOMY, Thirty-ninth Edition, Chapter76 Page No. 1177.

<sup>xii</sup> GRAY'S ANATOMY, Thirty-ninth Edition, Chapter77 Page No. 1187.

<sup>xiii</sup> GRAY'S ANATOMY for Students, Richard L. Drake, Regional Anatomy Colon Page No.282

<sup>xiv</sup> GRAY'S ANATOMY, Thirty-ninth Edition, Chapter76 Fig.76.1 Page No. 1177.

<sup>xv</sup><https://cdn.britannica.com/19/74319-050-A0139604/intestine-rectum-Structures-human-crypts-mucosa-anus.jpg>

<sup>xvi</sup> [https://basicmedicalkey.com/wp-content/uploads/2017/01/9781626231689\\_f0370.jpg](https://basicmedicalkey.com/wp-content/uploads/2017/01/9781626231689_f0370.jpg)