

ELABORATIVE STUDY OF KANTHYA MAHAKASHAY OF CHARAK SAMHITA BY USING THE CONCEPT OF LESHOKTA

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ABSTRACT

Mahakashayas of *Aacharya Charaka* are very well known to every Ayurveda preacher, but there is always confusion while using those *mahakashayas* practically. Because *aacharyas* had avoided to repeat one thing everywhere, hence there are only groups of 10 drugs having their unique names indicating their mode of action. This is called as *leshokta*; as the topic is half explained. Elaboration of the topic by making use of all the available classical text is the decoding of the *leshokta*. To make those *mahakashays* more beneficial for all practioners and students, author has drawn one *mahakashay* such as *kanthya mahakashay* and studied it thoroughly. Author has explained

this *mahakashay* by all dimensions. This *mahakashay* includes the drugs which are beneficial for *kantha*(throat). All ten drugs in the *mahakashay* are mentioned here with their characteristics and the action of each drug separately. Along with that author has compiled all the information regarding the organ *kantha* similar to larynx; from the context of both Ayurveda and modern. It will be easy for all to understand about the topic from both perspectives.

KEYWORDS: *Kanthya mahakashay*, Larynx, Speech production, *Swarabheda*.

INTRODUCTION

In the classical context of Ayurveda, *aacharyas* have followed the concept of avoidance of lengthening of the *samhita*. Therefore, it leads to confusion while studying of *samhita* among students. Therefore, it is duty of every person preaching Ayurveda to try to put forth the actual meaning of the context given in the *samhitas*. Wherever in the *samhitas*, partly

explained context is found, it is called as *leshokta*. Here author has come across one of the such contents called as *mahakashay*. Acharya Charak has enlisted the drugs in the mahakashay but he didn't have mentioned about their formulation/ doses/ time/ agonists/ stage of the disease etc. about the drugs. Here is our main role to elaborate about what the acharya wanted to convey.

In the 4th *adhyay* of *Charak Samhita* of *aacharya Charaka* named *shadvirechanshatashritiya* has given group of 10 drugs in each *mahakashay*. Total number of mahakashayas is 50. Name of each *mahakashay* suggests the action of that typical drugs. But it has to be understood that it doesn't mean that all drug should be used at a time. Every drug in the group is having the specific action for the specific condition.

This article is all about the action of *kanthya dravyas* in that *mahakashay* according to the *rasapanchak* of *dravyas*. Also, it covers ayurvedic and modern perspective of the organ *kanth*.

Literary review according to ayurvedic text

Kanth, which is more or less similar to larynx in modern medicine system is the main organ of phonation. Considering its importance in human life; *aacharya Charak* has given a complete group of drugs acting on the *kanth* or which are beneficial for the healthy speech production. It includes following drug,

- 1) **Saariva** – *Hemidesmus indicus* (F- Apocyanaceae)
- 2) **Ikshumoola** – *Saccharum officinarum* (F- Poaceae)
- 3) **Madhuka** – *Glycerrhiza glabra* (F- Fabaceae)
- 4) **Pippali** – *Piper longum* (F- Piperaceae)
- 5) **Draksha** – *Vitis vinifera* (F- Vitaceae)
- 6) **Vidari** – *Pueraria tuberosa* (F- Fabaceae)
- 7) **Kayaphal** – *Myrica esculenta* (F- Myricaceae)
- 8) **Bramhi** – *Bacopa moniera* (F- Scrophulariaceae)
- 9) **Bruhati** – *Solanum indicum* (F- Solanaceae)
- 10) **Kantakari** – *Solanum nigrum* (F- Solanaceae)

These are the ten shades of *kanthya dravya*. Those set of drugs is only for the easy understanding of one self. *Aacharyas* have given rights to Ayurveda disciples, such that one can add or remove any of the above-mentioned drugs according to their knowledge.

Defination of the word *kanthya* according to the *aayurvediya shabdakosha* is '*kanthay hitam kanthyam*.' It means good for throat.

For the better understanding of *kanthya mahakashay*, it is mandatory to know the anatomy and physiology of that specific organ.

1) Sharir rachana/Anatomy of kantha or larynx – According to the Ayurveda By using *swa-tantravalokan* concept, author is going through the detailed knowledge of *kantha* according to ayurvedic classical text.

It is situated in the neck region called as *gala pradesh*. It is made up of *aatmyaj* and *satymaj* bhava out of six garbha utpattikara bhavas given by acharya Charaka.^[1] It is included in the *Dasha pranayatana* (ten life spots) where prana lives predominantly, given by acharya Charak.^[2] There are three joints in kantha, according to *acharya sushruta*.^[3] It's main function is production of voice. There are two types of voices called as *prakruta* means normal and *vikruta* means abnormal as mentioned in the *Indriya sthana* of *acharya Charaka*.^[4]

Also it is called as *sadya pranahara marma*, as we have seen earlier that it is one of the *dasha pranayataniya*, it means if that organ will be affected then it will lead to mortality or severe deformity annotated in the *Suhruta samhita* of acharya *Sushruta*.^[5]

Vyatyasen tatra mukata swaravaikrutam arasagrahita cha.

There are 4 *dhamanis*/ arteries, 2 of which helps in speaking and remained two helps in the production of unmanifested sound/ *ghosha*, given by the acharya *Sushruta*.^[6]

“*tatrasya aakashatmakam shabda: |*”^[7]

It means, the voice we speaks originates from the *Aakash mahabhuta* (ether element).

There are two types of voices given in the *charaka samhita* such as,

Natural voices – *Hamsa* (swan), *krauncha*, *nemi*, *dundubhi*, *kalavinka*, *kak* (crow), *kapota* (pigeon), *jarjara*. These are compared to the voices of different birds.

Unnatural voices – *Edaka*, *kala*, *grasta*, *avyakta*, *gadgada*, *ksham*, *deena*, *anukirna*.

These are the points which author could get from the classical text.

For the sake of more knowledge about this topic, author has collected following references from the textbook of modern sciences, using *para-tantravalokan* (referring the text of other science to which the subject belongs) concept.

Literary review according to modern text

Larynx is the sound box, organ of phonation extending from tongue to trachea.

Position

Adult male - 3rd to 6th cervical vertebrae.

Children and adult female – somewhat higher than males.

Boundaries

Ventral – Skin, fasciae and hyoid depressor muscle.

Upper – Opens into laryngopharynx and forms anterior wall.

Below – Continuous into trachea.

Average measurement – (European adult)

	Males	Female
Length	44 mm	36 mm
Transverse diameter	43 mm	41 mm
Saggital diameter	36 mm	26 mm

Size

Remains same until puberty in both male and female. Afterwards male larynx enlarges. It's saggital diameter nearly doubles during this process. Thyroid cartilage continuous to increase in size until 40 years of age.

Laryngeal cartilages

Cartilages form skeletal framework of larynx.

Single cartilages – Cricoid, thyroid and epiglottic cartilage.

Paired cartilages – Arytenoids, cuneiform, corniculate, tritiate cartilages.

Throid cartilage is the largest of all. It's two alae meet anteriorly forming an angle of 90 degree in males and 120 degree in females. Vocal cords are attached to the middle of thyroid angle.

Laryngeal joints

1. **Cricothyroid joint** – Synovial type and performs two types of movements of arytenoids cartilage such as,
Rotatory- Causing abduction and adduction of vocal cords and
Gliding – Arytenoids over other cartilage and tends to closure and opening of the posterior part of the glottis.
2. **Cricoid joint** – synovial type and it is made up of inferior cornua of thyroid cartilage and cricoid cartilage.

Laryngeal membranes

1. Extrinsic membranes

- a) **Thyrohyoid membrane** – Connects thyroid cartilage to cricoid bone. It is pierced by superior laryngeal vessels and internal laryngeal nerve.
- b) **Cricothyroid membrane** – Connects thyroid cartilage to cricoid cartilage.
- c) **Cricotracheal membrane** – Connects cricoid cartilage to first tracheal ring.

2. Intrinsic membranes

- a) **Cricovocal membrane** – It stretches between middle of thyroid angle to the vocal process of arytenoids and forms vocal ligament.
- b) **Quadrangular membrane** – It stretches between the epiglottic and arytenoid cartilages.

Muscles of larynx

There are two types of muscles, intrinsic, which attach laryngeal cartilages to each other, and extrinsic, which attach larynx to the surrounding structures.

1. **Intrinsic muscles** – It includes muscles acting on vocal cords or laryngeal inlet which consists of abductors, adductors and tensors of vocal cords and openers and closures of laryngeal inlet.
2. **Extrinsic muscles** – They connect larynx to neighbouring structures and divided into elevators and depressors of larynx.

Blood supply of larynx

Superior laryngeal artery, branch of superior thyroid artery and inferior laryngeal artery, branch of inferior laryngeal artery.

Nerve supply of larynx

Motor supply – Recurrent laryngeal nerve and external laryngeal nerve.

Sensory supply – Internal laryngeal nerve and recurrent laryngeal nerve.

Here author could get the more detailed knowledge of the anatomy of the organ larynx, assuming that it is similar to that of *kantha*. So that.

Here is the anatomy of the larynx according to the Ayurveda and modern science in brief.

Physiology according to modern perspective

Speech Production- It is highly complex motor task that involves approximately 100 orofacial, laryngeal, pharyngeal and respiratory muscles. Precise and expeditious timing of these muscles is essential for production of temporally complex speech sounds which are characterized by transitions as short as 10 ms between frequency bands and an average speaking rate is of approximately 15 sounds/sec. Speech production requires airflow from lungs (respiration) to be phonated through vocal folds of larynx(phonation) and resonated in vocal cavities shaped by the jaw, soft palate, lips, tongue and other articulators(articulators).

- 1. Respiration** – during expansion of lungs air pressure becomes negative compared to atmospheric pressure and air will flow from the area of higher pressure to fill the lungs. Forced expiration for speech uses accessory muscles to elevate rib cage and enlarge thoracic cavity in vertical and lateral dimensions. During forced expiration of speech, muscles of trunk and abdomen reduce the size of thoracic cavity by compressing the abdomen or pulling the rib cage down forcing air out of lungs.
- 2. Phonation** – production of periodic sound wave by vibration of vocal folds. Airflow from lungs as well as laryngeal muscle contraction causes movement of vocal folds. These are properties of tension and elasticity that allows the vocal folds to be stretched, bunched, brought together and separated. During prephonation, vocal cords moves from the abducted to adducted position. Sub-glottical pressure builds and air flow forces the folds apart, inferiorly to superiorly. If the volume of the airflow is constant, the velocity of flow will increase at the area of constriction and cause a decrease in pressure below once distributed. This negative pressure will put the initially blow open folds back together again. The cycle repeats until the vocal folds are abducted to inhibit phonation or to take a break.

3. **Articulation** – Mobile and immobile structures of the face adjust the shape of mouth, pharynx and nasal cavities (vocal tract) as the vocal folds' vibration sound passes through producing varying resonant frequencies.

Role of cortical areas in the development of speech

Wernicke's area – Speech understanding

Broca's area – Speech synthesis

Motor area – Activation of peripheral apparatus.

DISCUSSION

Considering broader view, drugs in the *mahakashaya* will be divided into two main groups according to their *veerya*, either *ushna* or *sheeta*.

Ushna veerya dravyas are – Pippali, Kaitarya, Bruhati, Kantakari.

Considering characteristics of doshas, these drugs will help in kapha and vata dosha related disorders.

Sheeta veerya dravyass are – Sariva, Ikshumoola, Madhuka, Draksha, Vidari, Hamsapadi.

Similarly, these drugs will help in *pitta dosha* related disorders.

With the help of *veerya*, it can be said that *ushna veerya dravya* will help in *kaphajanya* and *vatajanya* disorders and *sheeta dravya* will help in *pittajanya* disorders. This is the very first and superficial level that we can decide how they would work. But it is not enough to know; we must have to think on the *guna* and *karma* of all ten drugs. So here, author refers another one classical text known as *Bhavaprakash nighantu* to have more understanding of the drugs.

Author came to know about following conclusions,

Rasapanchaka chart

Sr. no.	Drug name	Rasa	veepak	veerya	Guna + karma
1.	Sariva	Madhur	Madhur	Sheeta	Snigdha, guru, tridosahara
2.	Ikshumoola	Madhur	Madhur	Sheeta	Guru, snigdha, sara, vata-pittahara.
3.	Madhuka	Madhur	Madhur	Sheeta	Guru, snigdha, vata-pittahara.
4.	Pippali	Katu	Madhur	Sheeta (wet) Ushna (dry)	Snigdha, laghu, tridosahara.

5.	<i>Draksha</i>	<i>Madhur, amla</i>	<i>madhur</i>	<i>sheeta</i>	<i>Snigdha, sara, vata- pittahara.</i>
6.	<i>Vidarikanda</i>	<i>madhur</i>	<i>madhur</i>	<i>sheeta</i>	<i>Guru, snigdha, vata-pittahara.</i>
7.	<i>Kaitarya</i>	<i>Katu, tikta, kashay</i>	<i>katu</i>	<i>ushna</i>	<i>Grahi, sandhaniya.</i>
8.	<i>Hamsapadi</i>	<i>madhur</i>	<i>madhur</i>	<i>sheeta</i>	<i>Guru, pittahara.</i>
9.	<i>Bruhati</i>	<i>Katu, tikta</i>	<i>katu</i>	<i>ushna</i>	<i>Kapha-vatahara</i>
10.	<i>kantakari</i>	<i>Tikta, katu</i>	<i>katu</i>	<i>ushna</i>	<i>Sara, laghu, kapha-vatahara</i>

Above chart explains about the *rasapanchaka* (*rasa, veerya, vipaka, guna, karma*) of the ten *kanthya dravya*.

Keeping three doshas in frame, author could get the following relation

1) Vata dosha disorders

Sariva, madhuk, vidarikanda, ikshumoola, pippali, draksha, bruhati, kantakari, kaitarya.

2) Pitta dosha disorders

Sariva, ishumoola, madhuka, draksha, vidarikanda, hamsapadi.

3) Kapha dosha disorders

Sariva, Pippali, kaitarya, bruhati, kantakari.

As the *doshas* are responsible for any malfunction in the body, it is necessary to treat them first. Because of above differentiation, it would be easy to choose the drug for that specific *dosha*. Beyond that, single perfect drug can be identified by deciding which characteristic of the *dosha* has been deranged.

In the classical text *Sushruta Samhita*, *aacharya Sushruta* has explained the disease called *swarabheda*^[8] (sore throat) in the *swarabheda pratishedha* chapter. He has mentioned reasons and types of *swarabheda*. There are three types of *swarabheda* according to *aacharya sushruta*, which are-

1. *Vatajanya* (because of *vata dosha*)
2. *Pittajanya* (because of *pitta dosha*)
3. *Kaphaj* (because of *kapha dosha*)
4. *Tridoshaj* (because of vitiation of all three *doshas*)
5. *Kshayaj* (due to cachexic condition)
6. *Medaj* (due to excessive fats)

Whereas, *aacharya Charaka* has also mentioned its four types but he didn't explain separate chapter for this but given in the *rajayakshma chikitsa*.^[9] as a *upadrava* of *rajayakshma vyadhi*. This will help us to make correlation between each *dravya* and type of *swarabheda*.

As seen earlier, for each *dosha* author has distinguished all ten *dravyas* among them; same applicable here for mentioned types of *swarabheda*. *Tridoshaj* and *kshayaj* type have called as *asadhya* means untreatable. *Dravyas* which are applicable for *kaphaj* type are also useful for *medaj* type, as *meda* has same characteristics that of *kapha*.

In this way we can use each drug in different condition of the *swarabheda*.

Thus, with the help of *uhvya tantrayukti*^[10] author could explain the above discussed things. As told by *aacharyas*, *tantrayukti* are important tools for complete understanding of the *ayurvedic* literature. *Uhvya* means, when *aacharya* doesn't mention each and every thing about the topic but one has to understand the meaning behind the *sutra* by his/her logical reasoning; as it is already mentioned in the text somewhere. For instance, here during explaining *mahakashay*; *aacharya Charaka* didn't explain *rasapanchaka* of the *dravyas* but it is mentioned in the other *samhitas*. So, author has to collect that information from the available sources.

CONCLUSION

With the help of available literature, the half-explained *sutra* in the classical text can be studied. Here author has explained *kanthya mahakashaya* by mentioning all the basic information regarding the topic. Such that, given *mahakashaya* is related to the organ *kantha*(throat); hence author found necessary to know about the anatomy and physiology of that organ by both sciences *ayurvedic* as well as modern. So, it will be easy to understand for all. After explaining the area of action of the *dravyas*; each *dravya* is described according to its mode of action. Using *uhya tantrayukti*, author has explained about how one can use that *dravya* according to; which *dosha* has vitiated and which characteristic of the same is responsible for the disease. Author found it easy to choose the appropriate *dravya* for the anomaly of the throat following this method. With the same method one can study and explore other *mahakashay* of the *charaka Samhita*. It will help students in their studies and also teachers and practioners. *Ayurveda* is full of such *sutras*, as it is vast science and it will be too much lengthy to explain every little thing; so there is a wide scope for every *Ayurveda* learner to add on their knowledge by elaborating such *leshokta* topics in the same way.

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