

THE ORGAN KLOMA: A FRESH APPRAISAL

VILAS M. NANAL

606 Sadashiv Peth, Kunte Chowk, Laxmi Road, Pune – 411 030, India

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ABSTRACT: The author discusses in this paper the much debated and controversial organ of Kloma in an objective manner and establishes its relevancy by interpreting various classical texts.

Introduction

To review Kloma, the controversial organ, the prevalent opinions are to be taken into consideration. So, let us examine the definitions of Kloma which are enumerated here under.

- 1) Kloma = Pitta-saya = gall bladder
- 2) Kloma=Agnya-saya=Pancreas
- 3) Kloma=Yakrit=Liver
- 4) Kloma=Daksina Phupphusa=Right Lung

The organ kloma should fulfil the following criteria to be labelled as kloma.

1. udakavahanam srotasam talu mulam
kloma ca/ca. vi 5/10
udakavaha dve, tayormulam talu
kloma ca/su. 7/14
udakavahinam srotasam talu mulam
kloma ca/a.s sa.5

The udakavaha srotas, the various channels which maintain the fluid balance of the body derive their origin from two places viz. Talu

(the hard and soft palates) and kloma. An abnormal; vitiated state of these is indicated by

2. pradustanamidam vijnanam
(bhavati),
jihvatalvosthakloma sosam
pipasam catipravrdsham drstva
udakavahanyasya srotamsi
pradustani iti vidyat/ca.vi.5/10

An excessive dryness of the lips, tongue, palate, kloma and an insatiable thirst indicate malfunctioning udaka vaha srotas. A vidradhi of the kloma is indicated by:-

3. klomajayam (Vidradhyam)
pipasamukhasosagalagrahah/ca.su.
17/29
sva so yakridi hikka ca, pipasa

klomaje dhika/su.ni. pipasa
klomaje dhika/su. Ni 7/22
svaso yakrdi rodhastu
plihnyucchvasaya trt punah/
galagrahanca klomni syat sarvanga
pragraho hrdis//a.s.ni//

A disorder characterized by a rapid onset and progress arising from the kloma makes its presence felt by producing the following symptoms.

Marked Thirst

Dryness of Mouth

Choking sensation in the Throat.

4. adhvaprasosao srastangah
sambhrstapurusacchavih/
prasupagatra vayavah
suskaklomagananah// su.u.41/21

A person who has walked for a certain period of time and is now suffering from adhva sosa now exhibits.

A laxity of the musculature, lethargy, a roasted tanned dry complexion, an impaired tactile perception and a dry kloma, pharynx and mouth.

These and many more examples in the same vein which indicate the control of the fluid balance of the body. Kloma is one of the fifteen Kostangas described and derives its origin from the mother.

5. Pancadasa losthangani tadyatha
Nabhisca, hrdayanca, kloma ca,
yakrcca, pthiha ca, vrkkauca,
vastisca, purisadharasca,
amasayasca. Pakvasayottaragudam
cadharagudam ca, ksudrantram
ca, sthulantram ca, vapavahanam
ceti/ca.sa. 7/10.
pancadasa kosthangani tadyatha
nabhisca, hridayam ca.klom ca...
su.sa.7
kosthangani sthitanyesu hridayam

kloma pupphusaml a.hr.sa. 3/12
it should be related to be heart.

6. Mamsapeticayo
raktapadmakaramadhomukham tasya
daksinato
Kloma yakrcca
Hrdayasya dalsinato yakrt kloma ca.
Vamato pliha puppusasca. Su.sa.
4/39

The Hrdaya is that organ which has on its right upper and lateral side Kloma, right lower lateral side yakrt on left supero laterally phupphusa, and left infero laterally pliha.

It should be manifested from the Raktadhatu.

7. samanavayuh praddhmatat vaktat
dehosmapacitat/
kinciducchritarupastu jayate kloma
samjnitama//arunadatta, vyakhya on
A.H.Sa 3/12

When the foetal Rakta is being converted by the foetal Jatharagni and this conversion is being aided by the foetal samana vayu, the resultant is an organ related to Hrdaya but slightly separated and situated supero laterally in the kostha on the right side.

It should have sandhis, joints in it.

8. Kloma nibaddhasu astadasa
(sandhayah)/su.sa, 5/29
Astadasa kanthanasi nibaddha
Hrdayayakrt kloma na disu/A. san.sa
Kanthahrdaya Netra kloma nadisu
Mandalah sandhayah/su.sa 5/24

The organ Kloma should have Eighteen joints of the Mandala variety are mobile

It should be situated in the Vaksa (Chest, Thorax).

9. Yakrt brdaya parsvam ca kloma
Vaksasthitam
vididuh/(Hastyayurvedah, sa 7/11)

Kloma is an organ which forms the flank of the Yakrt and the Hrdaya and is situated in the chest. the should surround the heart from all sides, without being attached to it and be mainly on the right side of the chest cavity is the gist of the above discussion.

Now if we try and fit one of the previously enumerated hypothesis each one of them falls short on one or more accounts. Hence it becomes all the more important to view the issue from a fresh angle in an objective manner.

In modern Anatomy we find an organ described which fulfills most of the criteria admirably and can safely be termed as kloma. It is the Mediastinum.

This organ is situated in the thorax and extends from the Manubrium Sterni to the Diaphragm an the Retrosternal area to the ventral aspect of the thoracic vertebrae. It is a thick septum which is

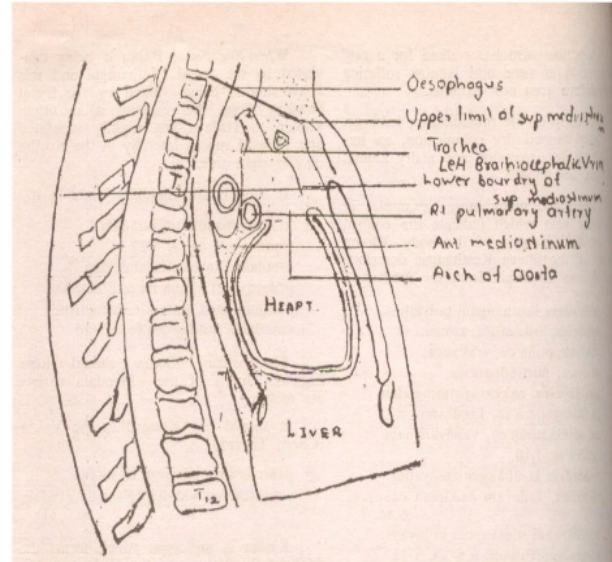


Fig. 1A. A diagram of a median section through the thorax to show the general disposition of the structures in the mediastinum. The heart in the pericardium forms the middle mediastinum while the art and post mediastina lie between the sternum & vertebral column resp. the post mediastinum also extends downwards behind diaphragm.

Situated in the median plane but slightly on the right side. In it are contained the heart and pericardium, the trachea and bronchii with its cartilaginous and jointed structure which is capable of expansion and contraction wither rhythmically or spasmodically. Eg. Normal breathing pattern or hiccoughing, coughing bout. These joints vary from 15 to 18 in number, are rounded and are not very mobile, but mobile enough to permit the passage of air and resist foreign bodies. It contains the various vessels reaching he heart; the superior and inferior venae cavae, the pulmonary vein, thoracic duct and various vessels leaving the heart, the pulmonary arteries and aorta. Hence the total circulating fluid volume

wither in the form of blood or lymph has to pass through the Mediastinum. The oesophagus is another organ contained in the Mediastinum. The lungs on either side and their counter balanced pressure are responsible for the median position of the Mediastinum. A sudden change in the pressure of the lungs on either side causes a Mediastinal shift, which can be grave.

10. tatra hrdayabhigate kanthasosa kloma
karsanam.... syuh/
tasmadetani visesena/raksyani
bahya bhigatad vatadibhisca//
(ca.si.7/5)

Hence a vitiated or abnormal state of either Prana vayu or Rasa dhatu (which harbours kapha dosa and pitta dosa) can affect the Kloma adversely and result in various maladies previously dealt with.

Now, we shall, on the basis of an anatomical background consider the dosa –Dhatu-Mala contents of the organ Kloma.

1. Rasavaha srotas – Hridaya and the afferent-efferent vessels-The Pericardium.
2. Pranavaha srotas – Hridaya and Pulmonary vessels
3. Annavaha srotas – Vama Parsva (oesophagus)
4. Kanthanadi and Apastambhau-The trachea and two main bronchi
5. The Mahapracira peshi – the Diaphragm
6. Phupphusavarana, Hridayavarana-Pleurae and Pericardium
7. The udakavaha srotas – Kloma/Thoracic duct.

8. The Urosthi, Kaserukas and Parsukas – The sternum, thorax, vertebrae and the costo – condral joints.

This is the Racana Sarira or the structure that go in the formation of Kloma, which is a bulky embranchment septum.

The Dosik availability is:

Prana vayu, Udana vayu, Vyana vayu, Samana vayu, Udana vayu, Vyana vayu Samana vayu, (Indirectly – it reaches the Rasa from Annavaha srotas to Hridaya through the Rasavaha/Udakavaha srotas) Avalambaka kapha, sadhaka pitta, Bodhaka kapha, Kledaka kapha. (indirectly because they render the food bolus moist thereby facilitating its free and unobstructed passage in the Annavaha and Rasa/ Udakavaha srotases respectively).

Rasadhatu, Rakta dhatu are the main ingredients. The udaka and Kleda are the two other ingredients of this assembly. Now we shall briefly consider some abnormalities based on the foregoing hypothesis.

Trt – Thirst is the main indicator of the malfunctioning Udakavaha srotas of which Kloma is one of the origins.

A progressive fluid loss as a result of either exercise hyper ventilation, vomit, purging resistance offered by all encompassing, oppressive sac which has turned its foe due to fluid density. This results in a feeling of dryness of the mouth first, throat later and later in a considerable thirst which is not quenched easily. It is common experience of a cool sip which induces a sense of well being.

A diagonally opposite thirst appears as a result of heavy food (guru anna) a heavy substance causes the Ahara parina makara Bhara upset requiring more kala (time) kleda (fluids), usna (heat) etc., than it would otherwise need. The time can be adjusted by observing fast etc. but the Kleda or fluid has to be supplemented from outside – in order to render it fluid and absorbable – the cold water taken aggravates the thirst as it helps to put out or douse the usna which in its first place unable to convert it. Thus the guru Rasa which is absorbed from the Mahasrotas reaches the heart and again it has to work against the resistance of the heavy rasa and the excess fluid state of the Udaka Rasavaha srotas.

This problem could be easily tackled by taking sips of hot water which due to its heat would penetrate the heavy food material and render it more subtle and if a fast is observed at the end for some time even the residue is dealt with effectively without causing clogging and water logging and thirst which is aggravated by cold water.

Kloma-akarsana – Caraka describes the grave disorder arising out of the sudden cardiac involvement which results in, ultimately the collapse of a lung either by external trauma or internal dosik activity.

The median Kloma is critically balanced by the positive pressures exerted by the lungs on it from either sides. The space of the Kloma offers passage to various fluids like Rasa Rakta Udaka to and from the heart along with the incessant Rhythmic activity of the heart in its pericardium.

Should a lung collapse as a result of either trauma in an acute manner the balance is displaced and the other lung pressure displaces the mediastinum along with its contents. eg. oesophages, trachea, bronchii, and may even cause kinks in the great vessels, if the lung is not inflated and the balance restored, the life of the person could be in jeopardy.

In more chronic cases like Jarakasa, Jalaja Parsvasula etc. the affected lung may succumb slowly causing gradual impairment in the form of lost / impaired elasticity and hampering the function of mediastinal organs.

A sudden seizure of the heart thus affects the Kloma adversely and causes amongst others a mediastinal shift which can be fatal.

The Kloma is an organ, due to its anatomical position and its contents i.e. the oesophagus, trachea heart and vessels etc. the fluid volume of the body passes through it at one time or the other during the cyclic movement i.e. either in the form of Rasa Rakta (Blood) or Udaka (Lymph) and Anna (Bolus).

Therefore any abnormality of these channels – results in subsequent impairment either functional or structural of the Kloma, or conversely an acute or chronic functional or structural impairment of the Kloma subsequently results in the impaired functioning of either Rasavaha, Pranavaha, Raktavaha, Udakavaha and Annavaha Srotases.

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5. Ca. Sa. 7/10; Su. Sa. 7; Ah. Sa. 3/12
6. Su. Sa. 4/39
7. Ah. Sa. 3/12; Comm. Aruna Dutta
8. As. Sa; Su. Sa 5/24
9. Hasthi Ayurveda. Sa. 7/11
10. Ca. Si. 7/5

Abbreviations used

Ca=Caraka Su=Susrut Sa=Sarira
Vi=Vimana As=Ashtang Sangrah Ni=
Nidana

U= Uttar Ah=Ashtang Hridya

MEDIASTINUM

The mediastinum is the bulky septum between the pleural cavities and their contained lungs. Though it is thick and extends from the root of the neck to the diaphragm and from the sternum to the vertebral column it is relatively mobile in the fresh state. Thus it is elongated in inspiration and may be displaced to one side or the other if the pressures in the two pleural cavities are not the same.