

## EXPLORATION OF NADI - IDA, PINGALA, SUSHUMNA

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Article Received on 27/07/2022

Article Revised on 17/08/2022

Article Accepted on 07/09/2022

**ABSTRACT**

Ayurvedic acharya used word *Nadi* for vessels, nerves, ligaments and umbilical cord etc. But they didn't give any view on Yogic *Nadi*. Ayurvedic acharya described ayurveda as *Sutra Rupa*, and described main functional unit of nervous system which is *Vata*. Nerves are the pathway of *Vata*. Yogi calculated more than 300000 but lastly concentrate on 3 *Nadi Ida, Pingala and Sushumna Nadi*. *Sushumna* is recognised as central channel for flow of life force. *Sushumna Nadi* become linked with *Chakra* as psychosomatic phenomenon occurring along the same route of spine. *Ida* emerges from left side of *Mooladhara* and spiral upwards, intersecting at other form of energy centre and plexus in spinal column and comes to a point of termination at root of left nostril which joins at *Ajna chakra*, sixth energy centre. *Pingala* emerges on right hand side of *Mooladhara* exactly opposite to *Ida*. It spirals up along the spinal column crossing *Ida* at major energy centres and terminates at root of right nostril. *Pingala* governs whole right side of body.<sup>[1]</sup> In field of patient care *Nadi* science is having wonderful scope.

**KEYWORDS:-** *Nadi, Chakra, Mooladhara, Ida, Pingala, Sushumna.***INTRODUCTION**

In body there are many forms of *Nadi*, which extend throughout. The nervous system is most important part in modern science. *Ayurvedic acharya* knows the importance of this system that's why they gave highest number (eighty) of *Vata* disorders, but they only described functional part of it, which is *Vata*. Inside body there are three specific *Nadi* for conducting energy. In yoga we refer to negative line as *Ida* which is the channel of *Manas Shakti* or mental force. Positive line is *Pingala* which channelize the dynamic energy of *Prana Shakti*. *Sushumna* function as an earth dormant state. Main role of *Sushumna* is to force either *Prana shakti* or *Manas shakti*. From all of *Nadi*, *Sushumna* is said to be most important. They are high voltage wires which conduct the energy to *Chakras* situated along spiral column. Yogis through there dedicated practice (*Abhyasa*), inner version (*Antardrishti*) and self-analysis (*Swadhyaya*) had made extensive number of observations on this concept. Now a days, there is potential health benefits of forced uni-nostril breathing in various medical condition such as hypertension, low blood pressure etc. Yogic literature mentioned importance of *Nadi* by giving holy names like- *Ganga, Yamuna, Saraswati & Varanasi*. *Nadi* science helps in improving our understanding that how-to live-in harmony with nature.

**Literary review**

The word *Nadi* comes from Sanskrit root *Nada* which means to flow. *Nadis* are subtle flow of vibration. *Upanishad* explains that *Nadi* penetrates the body from soles of feet to crown of head, carrying *Prana* "the breath of life". According to *Goraksha Samhita* and *Hatha yoga pradipika Nadi* are 72000, *Prapanchasara Tantra* – 300000 while *Shiva Samhita* 350000 emerges from the navel centre.

*Ida Nadi*, negative channel that bring consciousness in every part of body. The *Shiva Swarodya* likens its nature to the energy created by moon, also known as *Chandra* or Lunar *Nadi*. It originates at a point just below base of spine where the first energy centre, known as *Mooladhara Chakra* is located. Emerges from left side of *Mooladhara* and spiral upwards, intersecting at other four energy centre & plexus in spinal column and comes to a point of termination at root of left nostril which joins *Ajna chakra*, sixth energy centre.

*Pingla Nadi* is a transmitter of *Prana shakti*. It is the positive aspect also known as *Surya* or solar *Nadi* because of its energy as invigorating sun's ray. *Pingala* emerges on right hand side of *Mooladhara* exactly opposite to *Ida*. It spirals up along the spinal column

crossing *Ida* at four major energy centres and terminates at root of right nostril. *Pingala* control the breath in right nostril.

*Sushumna* emerges from the base of spine, same as *Ida* & *Pingala* but without diverging right and left, it travels directly up through the centre, piercing main *Chakra* and plexus along the route. *Sushumna* unites with *Ida* and *Pingala* at *Ajna chakra*.

According to *Gyana Shabda Kosh*- *Nadi* is *Stri*, *Gyanvahini* as well as *Shaktivahini*.

In Sanskrit *Vangmaya kosh*- *Nadi* are vessels, cord, meatus, canal, tube, nerve.

In Sanskrit, *Nadi* is thin thread like structure that has capacity to flow. It may be vessel, cord or nerve like structure in our body.

*Nadi* – *Acharya Sushruta* gives definition of *Nadi*; it is used for the structure which are having capacity to flow.<sup>[2]</sup>

*Nabhi -Nadi* – *Sushruta* explained how to care new-born baby and after coming out from the womb with the umbilical cord, physician first tight it with help of medicated thread and then cut it from eight finger breadth distance and hang it baby's neck.<sup>[3]</sup>

*Nasa Nadi*- *Sushruta* described as *Tala Yantra*.<sup>[4]</sup>

*Shabdabhevaha Nadi* –If *Vata* goes in different direction & disturbed function of nerve related to ear then person hear different type of sound, disease called *Pranada*.<sup>[5]</sup>

*Sangyavaha Nadi*- Person becomes unconsciousness if *Vata* disturbed function of nerves.<sup>[6]</sup>

*Vatavaha Nadi* - It is related to *Apsthamba marma*.<sup>[7]</sup>

*Chandra*, lunar flow is female principle & *Surya*, solar flow is male principle. Understanding that moon is *Shakti* and *Surya* is *Shiva*. Complexion of moon is fair & seen in dark.

चन्द्रः स्त्री पुरुषः सूर्यश्चंद्रो गोरोसितो रविः

चंद्रनाडी प्रवाहोण सौम्य कार्याणि कारयेत (sh. sw.60)

### Modern review

Neuroanatomy is another branch of anatomy which deals with study of structural aspects of nervous system.

### Introduction of nervous system

Nervous system can be separated into parts based on structure and function –

Structurally-Central Nervous System and Peripheral Nervous System

Functionally-Divided into Somatic and Visceral parts.

CNS is composed of brain and spinal cord, both of which develop from neural tube in embryo. PNS consist of spinal and cranial nerves, visceral nerves and plexus and enteric system. Functionally nervous system divided into somatic and visceral parts. Somatic part is receiving and responding to information from external environment. Visceral part is for detecting and responding to information from internal environment. Visceral part of Nervous system consists of motor and sensory components and Sensory nerves are for changes in viscera and motor nerves it innervates smooth muscle, cardiac muscle and glands.

Visceral motor component is commonly referred as autonomic divisions of PNS and is subdivided into sympathetic and parasympathetic parts. Both sympathetic and parasympathetic contains efferent as well as afferent fibres. Efferent fibre supply smooth muscle throughout the body. Influence may be either due to contraction or relaxation. In a given situation, sympathetic and parasympathetic nerves generally produce opposite effect. For purpose of description, we can divide sympathetic trunk into -Cranial part, Cervical part, Thoracic part, Lumbar part and Pelvic part. In cranial part there is internal carotid plexus and cervical part of sympathetic system- sup. cervical ganglia, middle cervical ganglia and inf. cervical ganglia.

### Anatomy of spinal cord

Spinal cord is most important content of vertebral canal. It is cylindrical greyish white structure. Upper end of spinal cord becomes continuous with medulla oblongata at level of upper border of first cervical vertebrae. It occupies superior two third of vertebral canal. Its average length in European mail is 45cm, its weight about 30gm. Extends from upper border or atlas to junction between first and second lumbar vertebrae, level varying with length of trunk especially in fundus. Spinal cord is enclosed in durameter, arachnoid matter and piameter separated from each other by subdural and subarachnoid spaces containing cerebrospinal fluid. Continuously cranially with medulla oblongata, cord narrows caudally to conus medullaris, from where apex a connective tissue filament, filum terminalae descends to dorsum of first coccygeal vertebral segment. In transverse width spinal cord varies, gradually appearing craniocaudally, except at level of enlargements. It is not cylindrical, being widest transversely at all level and especially in cervical segments.

*Ida Nadi- Vama Nasa* (left nose) – Related to Nasal branch of maxillary nerve, branch of trigeminal nerve. Its fibres come through Greater Petrosal nerve- Nerve of pterygoid canal – pterygopalatine ganglia – maxillary nerve- nasal branch.

*Pingala Nadi- Dakshin Nasa* (right nose)- Related to Nasal branch of maxillary nerve, branch of trigeminal nerve. Its fibres come through Greater Petrosal nerve-

Nerve of pterygoid canal – pterygopalatine ganglia-maxillary nerve – nasal branch.

*Sushumna Nadi- Maddhya Deha* (middle of body) – spinal cord

## DISCUSSION

In ayurvedic text, description of *Vata* and its disorder as nervous system but they did not give any structural part of nervous system like nerves or *Nadi*. Yogic calculated more than 300000 *Nadi* but lastly concentrates on 3 *Nadi*– *Ida*, *Pingala*, *Sushumna Nadi*. *Ida Nadi* is left channel and considered to be current of feminine energy in the body. It is said to be nourishing and balancing and is therefore named *Ganga*. It starts from *Mooladhara chakra* or *Kanda* from left side and terminate in left nostril. *Ida Nadi* penetrates each chakra and goes spirally upwards and it terminates at left nostril. *Pingala* is right channel, thus current of masculine and solar energy. *Pingala* is called *Yamuna* as it is purifying like fire and is considered to be verbal and rational in nature. Starts from *Mooladhara chakra* and goes up to parallel from right side of vertebral column. It terminates at right nostril. *Sushumna* runs through *Mooladhara* and then carries on right up to the base of skull (*Talu*) where it meets with *Sahasrara chakra* at the top of skull. From *Mooladhara*, *Sushumna* passes in vertebral column (*Meru Danda*) and enter *Talu* (base of skull) where it meets with *Sahasrara*. From Modern anatomy, spinal cord is only structural part of central nervous system that passes vertically through vertebral canal that starts from sacral hiatus below base of skull until it connects with foramen magnum.

## CONCLUSION

Two sympathetic chains are present from both side of vertebral column. These chains are coming from base of skull and join with each other on coccyx where its meeting point from a ganglia called ganglion impar. Just above this impar we find a lumbar enlargement in spinal cord called *Cauda equina* which may indicate as knot of these *Nadis*. Both sympathetic chains terminate as cervical part of sympathetic trunk but according to ancient yogic literature they may terminate as nasal branch of maxillary nerve in the right and left nostril, which is branch of trigeminal nerve.

According to *Shiva Samhita* these *Nadis* are spread through the body crosswise and lengthwise, they are vehicles of sensation and keep watch over movements of air, they regulate motor functions also. So, these *Nadis* are the pathways of *Vata* and ayurveda mentioned *Vata* functions similar to nervous system function therefore these *Nadis* may be a nerve or related structures. We can correlate the *Sushumna Nadi* to spinal cord through origin, termination, its position in vertebral column, three layers inside spinal cord and *Sushumna nadi*. *Ida* and *Pingala Nadi* are ancient sympathetic chains, which are

situated from both sides of vertebral column in human body.

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