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CONCEPTUAL STUDY OF VATA DOSHA IN MAHASROTASA WITH SPECIAL REFERENCE TO ENS.

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ABSTRACT

Background: *Ayurveda* is ancient system of Indian medicine based on certain fundamental principles, and one of them is '*srotasa*'. Acharya has stated '*mahasrotasa*' is *mulsthan*a of '*pranavaha srotasa*'. Similarly, while describing *abhyantara rogamarga*, Charakacharya postulated *koshtha, aamashaya-pakvashaya* as *mahasrotasa. Mahasrotasa* includes the region from *mukha to guda. Mahasrotasa* also includes in its ambit '*samana vayu'* which is one of the five types of *vata dosha*. *Saman vayu* while performing its functions is aided by prana vayu and apana vayu. The functions of samana vayu includes *-annagrahana, pachana, vivechana, and munchana. Samana vayu* is located besides *'jatharagni'* and thus *jatharagn*i is also dependent on *samana vayu*. If *Samana vayu* is in prakrut state then the *agni* will also be in *prakrut* state and vice versa. All the functions of *samana vayu* can be compared with physiological functions of contemporary medical science. Basically, Enteric nervous system (ENS) is a large subdivision of ANS and it is present in gut. ENS works independently but it is still connected with CNS by its sympathetic and parasympathetic arms. Myenteric plexus and Meissner's plexus are the principle components of ENS, which are responsible for relaxation and contraction of Intestinal wall and secretion vttin GIT respectively. Digestion is also controlled by ENS. From above, karma of *samana vayu* and ENS can be correlated. **Material and methods:** Thorough review of literature related to *mahasrotasa*, *vata dosha* and relevant topics was done through samhitas, Ayurved text books as well as text books of contemporary science. Reference from internet also reviewed. **Conclusion:** Functions of *samana vayu* can be partially correlated with ENS.

KEYWORDS: *Mahasrotasa, Samanvayu, Jatharagni*, ENS.

BACKGROUND

Ayurveda is the ancient system of Indian medicine based on certain fundamental principles. Among those, *Mahasrotasa* is a unique concept coined by Charakacharya which is a *mulsthana* of *pranavaha srotasa*.[1] Acharya had also postulated *Koshtha, Sharirmadhya, Mahanimna, Aam-pakvashaya* as the synonyms for *Mahasrotasa.*[2]

Mahasrotasa includes the region from *Mukha* to *Guda*. i.e mainly *Annavaha* and *Purishvaha srotasa.*

While explaining *Tridosha siddhanta, Vata dosha* is considered as prime or superior among three, as all activities and functions are initiated and controlled by *Vata dosha*.[3] There are five types of *Vata dosha – Prana, Udana, Vyana, Samana, Apana*.[4]

Among these five types, *Samana vayu* is located besides *Jatharagni* and its *sancharsthana* is *Mahasrotasa*.[5] It gives strength to *Jatharagni*, so it is also known as *Agnisakha*. *Samana vayu* plays important role for maintaining health of the body, and if it is worsened, it produces diseases of *Mahasrotasa* like *Atisara, Agnisada, Gulma* etc.[6]

Karma performed by *Samana vayu - annagrahana, pachana, vivechana, and munchana*[7] *Samana vayu* while performing above functions is aided by *Prana vayu* and *Apana vayu.*

EN S (Enteric Nervous System) is a large subdivision of ANS which is found in gastro intestinal tract.[8] There are 100 millions of neurons present in ENS which is equal to total number of neurons present in spinal cord. It is also known as 'Second Brain' or 'Gut brain'.[9] ENS functions independently but it is also connected with CNS by its sympathetic and parasympathetic arms. Myenteric (Auerbach's) and Meissner's (submucosal) plexus are the principle components of ENS, which are responsible for relaxation and contraction of Intestinal wall and secretions in GIT respectively.[10] Digestion is also depends on ENS.

From above, karma of *samana vayu* and ENS can be correlated.

AIM: To study the functions of *Vata dosha* in *mahasrotasa* with special reference to ENS.

OBJECTIVES

1. To study functions of *samana vayu* in *mahasrotasa*.
2. T o study Enteric nervous system.

3. To study correlation between *samana vayu* and ENS.

MATERIAL AND METHODS

Thorough review of literature related to *mahasrotasa, vata dosha* and relevant topics was done through *Bruhatrayi,* Ayurveda text books as well as textbooks of contemporary science. Reference from internet also reviewed.

DISCUSSION

Acharya had stated *Mahasrotasa* is among two *mulsthana* of *pranavaha srotasa*. The synonyms of *Mahasrotasa* are *Koshtha, Mahanimna, Sharirmadhya, Aamashaya-Pakvashaya* etc. *Koshtha* is explained in two ways- Anatomically it is a hollow structure for accommodation of visceral organs, and physiologically *koshtha* is nothing but bowel habits according to person's constitutions i.e *Krura koshtha, Madhyam koshtha and Mrudu koshtha*.

Mahasrotasa is *sancharsthana* of *Samana vayu,* it coordinates with *Prana vayu* for *Anna grahana* process. *Samana vayu* is located near *jatharagni* and it is said to be '*Agnibalprada'* means it stimulates *Jatharagni* and it helps *Pachaka pitta* for digestion of food. *Apana vayu* resides in *Pakvashaya* and eliminates *mala, mutra* etc. from body. *Samana vayu* also helps in absorption of essence part or *Sara,* separation of *Sara* and *Kitta* and initiation of elimination of *kitta* i.e waste product.

While in contemporary science, Enteric nervous system is responsible for gastrointestinal movements i.e peristalsis and secretions. It includes afferent neurons, efferent neurons and inter neurons, all of which makes ENS capable in absence of CNS input. Myenteric or Auerbach's plexus and sub mucosal or Meissner's plexus are two principle components of ENS. Myenteric plexus is an outer plexus present between longitudinal and circular muscle fibre. This plexus helps in controlling digestive tract motility. Sub mucosal plexus lies within sub mucosal layer of small and large intestines, and forms continuous layer up to internal anal sphincter. This plexus helps in absorption of nutrients, and local muscle movements.

Mechanism of peristalsis in intestine

When food in the form of bolus reaches small intestine, it descends and distends smooth muscle of an intestinal wall. Intestinal distension further stimulates sensory network of neurons in myenteric plexus. Also another type of sensory network of neurons in sub mucosal plexus will be stimulated by chemical composition of food. Excitory neurotransmitters and

inhibitory neurotransmitters help in contraction and relaxation of muscles in circular as well as longitudinal muscle layer, and peristalsis takes place.

When stool enters in rectum, distension of rectal walls takes place. This distension sends sensory signal to myenteric plexus and it generates peristalsis from colon to rectum, then internal anal sphincter relaxes which leads to urge of defecation. It means ENS not only helps in digestion and absorption but also helps in initiation of excretory process.

CONCLUSION

Mahasrotasa is considered from *Mukha* to *Guda* i.e GIT. *Mahasrotasa* includes in its ambit *samana vayu* which is primarily responsible for stimulation of *agni* and leads to digestion, absorption, and separation of *sara- kitta*. Its functions can be correlated with functions of ENS in GIT. There is need of further research to evaluate in detail.

REFERENCES

1. Dr. Shree Narendranath Sengupta, Charaka samhita. Third part, Srotovimana adhyay, Varanasi: Chaukhamba, 1991; 5(3): 1461.
2. Dr. Ramkaran Sharma, Charak samhita vol.1.Trishaishniya 11/48 Varanasi Chaukhamba. Edition 6th, 1999; 228.
3. Dr. Ramkaran Sharma, Charak samhita vol.1. Vatakalakaliya 12/9 Varanasi Chaukhamba. Edition 6th, 1999; 237.
4. Dr. Bramhananda Tripathi, Ashtanghridayam, Doshbhediya adhyay, Delhi, Chaukhamba Sanskrit Pratishthan. Edited 2015; 12/4 pg. 171.
5. Dr. Bramhananda Tripathi, Ashtanghridayam, Doshbhediya adhyay, Delhi, Chaukhamba Sanskrit Pratishthan. Edited 2015, 12/8 pg. 171.
6. Sri Dalhanacharya, Nibandhasarasanghraha commentary, Sushruta samhita, Nidana sthana; vatavyadhinidana, Chaukhamba orientalia, Varanasi.1/16, 17 pg.no 260.
7. Dr. Bramhananda Tripathi, Ashtanghridayam, Doshbhediya adhyay, Delhi, Chaukhamba Sanskrit Pratishthan. Edited 2015, 12/8 pg. 171.
8. Hall. E, Guyton. C. Gastrointestinal physiology, Textbook of medical physiology, New Delhi (India), Elseveir, 2006; 774.
9. Justin Sonnenburg, Erica Sonnenberg, 2020 Scientific American, A division of Springer Nature America, INC.
10. Hall. E, Guyton. C. Gastrointestinal physiology, Textbook of medical physiology, New Delhi (India), Elseveir, 2006; 774.