

MODE OF ACTION OF BASTI IN PAKSHAGHATA

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ABSTRACT

Ayurveda is an ancient life science, which stresses on *swasthasya swasthya rakshanam aathurasya vikaara prashamanam*, *ayurveda* possesses an important line of treatment called *panchakarma* which constitutes different kinds of treatment procedures such as *vamana*, *virechana*, *basti*, *raktha mokshana* and *shirovirechana*. Among these *basti* is considered and employed mainly for the purpose of *vata vyadhi*. As the civilization is getting advanced and modern, the way of human life has become very vulnerable and prone to many neurological conditions due to different lifestyle, easy going, and sedentary lifestyles and along with these there is an increase in adoption of new habits like tobacco, smoking, drugs, alcohol. Abuse of all these habits has resulted in many lifestyle diseases, among them neurological disorders like Paralysis which is one of the commonly seen medical condition and also one of the most important type of disease which one has to concentrate on. *Basti* acts like a nectar in such conditions. In this paper we have made an effort to explain the mode of action of *basti* by illustrating *pakshaghata* as one of the *vata vyadhi* condition.

KEYWORDS: Neurological disorders, *Pakshaghata*, Paralysis, Mode of action

INTRODUCTION

Among many *nanathmaja vikara* explained in *Ayurveda* classics under *vatavyadhi*, *pakshaghata* is also one among them which is explained under the 8 types of *nanatmaja vatavyadhi*. *Pakshaghatha* means paralysis of one half of the body, this happens due to impairment of *karmendriyas*, *gnanendriyas* and *manas*. *Gnanendriyas* can be considered as a part of sensory system and *karmendriyas* to the part of motor system.¹ Paralysis is defined as the rapid onset of focal neurological deficit resulting from diseases of the cerebral vasculature and its contents. In developed nations paralysis

has become the 3rd most common cause for the death. Approximately 200 per 100,000 persons and 9.94% of total deaths in India is caused by paralysis.² According to World Health Organization paralysis is defined as ‘a clinical syndrome consisting of rapidly developing clinical signs of focal (or global in case of coma) disturbance of cerebral function lasting more than 24 hours or leading to death with no apparent cause other than a vascular origin.’³ Among the causative factors which causes the Paralysis with neurological disorder, ischemia constitutes for around 85% and 15% are due to primary

haemorrhage.⁴ Paralysis can be correlated with the disease *Pakshaghata* described in *Ayurveda*. *Panchakarma* is one of the important treatment processes explained in our *ayurveda*. It is the way or a mode of treatment which helps to cleanse our body from all the toxic elements present in our body. *Ayurveda* stresses that *panchakarma* has the ability to maintain normal physiology of the body. Among the different *panchakarma* procedures *basti* is one of the main procedure mentioned in the treatment for *vata dosha*. *Charaka* also mentions *basti* as *ardha chikitsa* in one of the context, *vata* is considered to be an important functional entity in our body, and it helps in controlling all the important functions in our body as it helps in retention and elimination of other two *doshas* (*Pitta*, *Kapha*), *mala* and *mutra*, with all these functions associated with the *vata dosha* and if it gets vitiated then all the above said mentioned functions would be hampered and to control or to treat *vata dosha prakopa*. *Ayurveda*, *acharyas* have mentioned that *Basti* is the best and most important treatment. So we tried to find out the mode of action of *Basti* in *Vatavyadhi* (Neurological Disorders) through referring different scientific articles.

Pakshaghata nidana:

According to *sushruta*:

1. All mentioned *vatavyadhi* *nidana*.
2. Injury to *lohitha marma* and *kakshadhara marma*.
3. Improper administration of *Raktha mokshana*.

Pakshaghata purvarupa:

Avyakta lakshana or *ishad lakshana* is itself the *poorvaroopa* of *vata yadhi*⁶

Pakshaghata lakshana:

Since the *guna* of *vayu* itself is *chanchalatha*, it produces signs and

symptoms which are repetitive and symptoms usually appear and then disappear. Few of the symptoms which can be seen in any *vata vyadhis*'s are *Stambha*, *Sankocha*, *Kampana*, and also because of *vata dosha*, *shoshana* of *dhatu*'s in the body occurs, and due to this abnormal lightness in the body can be seen.⁸

According to *madhava nidana*, if *pakshaghata* manifests due to association with *Pitta dosha*- symptoms like *daaha*, *santapa*, *moorcha* are seen. If *pakshaghata* manifests due to association with *kapha dosha* - *shaithyatha*, *shotha*, *gurutva* are seen.

Pakshaghata samprapthi:

When *vata* gets in to the *prakupitha avastha* it takes abode in those *dhamani*'s which goes in to upside and downside direction of the body and gets lodged in to either one side of the body and it damages the *sandhi bandha*'s and further damages the whole side of the body. This *roga* is called as *pakshaghata* by the scholars, and any individual who suffers from this disease will have *akarmanyatha* and *achethantha* and if left untreated the individual will eventually die.⁹

Pakshaghata sadhya asadhyatha :

i) *Pakshaghata* is *sadhya* if there is involvement of *vata* along with *pitta* and *kapha*.

ii) *Pakshaghata* becomes *krichra sadhya* if there is only *vata* involvement in the disease.

iii) If *pakshaghata* is due to *dhatu kshaya* then it becomes *asadhya*.¹⁰

Pakshaghata chikitsa:

Swedanam sneha samyuktam pakshaghate virechanam.

Virechana will be the line of treatment with the prior administration of *snehana* and *swedana*.¹¹

According to *Acharya sushruta*:¹²

Sushruta has not only told the *chikitsa* for *pakshaghata* but he has also told to see the some of the criterias which should be present in the patient in order to give the suitable treatment.

Following symptoms will be present in a patient: *anagaatra* (not severely emaciated), *shareera vedana* (pain in the body), *aatmavan* (brave/self restrained), *saadhana sampanna* (resourceful), for these kind of patients one should administer *snehana* and *swedana*, later one should prepare the patient for *shodhana therapy* mentally, later *mridu shodhana* should be administered (*vamana, virechana, aasthapana, anuvasana*)

Acharya Sushruta also says that one should follow the treatment protocol of *Apatanaka* disease that is *anuvasana* and *asthapana chikitsa*. *Shiro basti* is the special line of treatment mentioned in *pakshaghata*.¹³

For *abhyanga* purpose one should use *anu taila*, for *upanaha* one should make use of *saalvana*, and for *anuvasana* one should make use of *Bala taila*. In this way one should follow this line of treatment for about 3-4 months.¹⁴

Before understanding the mode of action of *Basti* we should know how the preparation of *basti dravya* is made and its usage and relevance of adding.

Constituent for *niruha basti* are: *Makshika* (honey), *saindhava* (rock salt), *sneha* (oil/ghee/vasa), *kalka* (paste of herbs), *kwatha* (decoction of herbs).¹⁵

Makshika: Honey has *madhura* and *kashaya rasa, chedana* and *ruksha* properties and has *ushna virya*, it is *kapha hara* and *vrana shodhana*, and it has *yogavahitva* property and has the capability to penetrate in to the minute spaces of the *srotas*.¹⁶

Honey is rich in sources such as fructose, glucose, sucrose, maltose, lactose, and other

disaccharides and tri-saccharides. It also contains proteins, fats, vitamins, minerals, enzymes, and amino acids. Hence honey can be considered for both for its nutritional and also medicinal properties.¹⁷

Saindhava lavana: It has *laghu, sukshma guna, anushna virya, madhura vipaka*. *Saindhava* contains 21 essential and 30 accessory minerals, 98% sodium chloride and trace of potassium in it which is useful in regulating acid-alkaline balance, maintaining osmosis etc. It removes excess acidity; generate hydro electric energies in cell for nerve cell communication.¹⁸

Sneha: Among 4 *snehas - taila* is considered as the best one, it will simply lubricate the colon and helps in expelling the *malas* from the colon easily and also *sneha dravya* reduces the *vata kopa*, *sneha* with its capability to travel to the micro channels of the *srotas* it has the capability to soften the *abaddha mala* and also helps in removing the obstruction in the *srotas*, and also because of the virtue of its *sneha guna* it helps in protecting from the untoward effects of *teekshna dravyas* and also because of its *guru* and *snigdha guna* it helps in liquefying the *doshas* and *mala* and helps in easy excretion of the same.

Kalka dravya: *kalka dravya* is one of the main ingredients in the preparation of the *basti*, it is considered important because it gives potency to the *basti dravya* on the whole since it is prepared by different combination of medicinal herbs having different properties which could be used in different conditions. *kalka dravya* mainly functions as *utklehana* or *dosha harana* or *shamana*.

Kwatha: *Kwatha* is decoction of *basti dravyas*. The mode of action of *basti* like *vatahara* or *pitta hara* or *kapha hara*

depends on the *gunas* of *kwatha dravya*. It also helps in maintaining volume and helps in spreading in and cleaning. And it can be chosen according to the specific intention example for *vata hara* or *pittahara* or *kapha hara* purposes. *Kalka* and *kwatha dravyas* both are chosen and also work on the basis of *prakopa* and *shamana* of the particular *doshas* present in the body.¹⁹

Mode of action of basti according to modern view:

We can understand the mode of action of *basti* through following ways:

By absorption mechanism

By system biology mechanism

By neural stimulation mechanism

By excretory mechanism

1. By absorption method:

The most pressing question in *basti* administration is how medications are absorbed in the rectal region. The rectum has an abundant blood and lymph flow, and medications can penetrate the rectal mucosa like any other lipid membrane, allowing lipid-soluble compounds to be absorbed easily. During the *basti* preparation, all of the ingredients are combined in such a way that the *basti dravyas* are promptly absorbed.^{20,21} (as a result of the breakdown of large-chain fatty acids into small-chain fatty acids).

2. By system biology concept:

The notion of system biology states that all of our organs are interconnected. For example, if we pull a thread at one end, we will feel the movement of the string at the other end. This is due to the intermolecular connections that exist throughout our body. As a result, administering *basti* in the rectal region will very certainly have an effect on other parts of the body.^{22,23}

3. Neural stimulation mechanism:

According to Dr. Michael Gershan, an anatomy and cell biology professor at Columbia University in New York, the gut contains roughly 100 million neurons, which is more than the spinal cord. The gut contains major neurotransmitters such as serotonin, glutamate, norepinephrine, and nitric oxide. By connecting with a few number of command neurons, the brain transmits instructions to the gut inter neuron, which then sends signals up and down the pike. The myenteric plexus and the submucosal plexus are two layers of gut tissue that include both command neurons and interneurons. The activity pattern is controlled by command neurons. The vagus nerve can only change the volume by modifying the pace at which it pulses. The ENS and the CNS work in tandem. Stimulation with *Basti* (either by chemo or mechano receptors) may cause activation of the relevant area of the CNS, resulting in the desired outcome.^{24,25}

4. By excretory method:

If we observe the anatomy of the sigmoid colon, rectum and anal region we can see that there is presence of parasympathetic nerve supply in these region quite abundantly and this helps in stimulating the function of defecation reflexes.^{26,27}

DISCUSSION

The active ingredients of the medicine, according to modern research, act on receptors in the gastrointestinal tract, which are analogous to the enteric nervous system. The ENS (Enteric Nervous System) is a large set of neurons that performs autonomic reflexes without relying on the central nervous system. The ENS has more than 500 million neurons (Enteric Nervous System). As a result, it's also known as "the second brain." There are several similarities between

CNS and ENS in terms of cellular structure, neuropeptide secretion, and specific functions, and recent studies have shown that CNS and ENS have a significant impact on one another. There is a lot of potential in uncovering the hidden mechanism behind *basti karma*, and we might even gain a better understanding if we learn both the anatomy and physiology of the parts involved in *basti* treatment.^{28,29}

CONCLUSION

As we all know that *basti* is one of the most important treatment protocol mentioned in *Ayurveda* and prescribed especially in *vata vyadhi*, and due to its importance and efficacy it becomes very important for us to understand the mode of action of *basti*, the organs involved, the medicine's effectiveness over the concerned organs and how the effectiveness of the *basti* can reach to the distant organs like brain after being administered through the anal route. In this article we have given if not probable but a possible mode of action of *basti* through modern understanding.³⁰

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