



MODE OF ACTION OF VASTI IN NEUROLOGICAL DISORDERS (VATA VYADHI) - A CONCEPTUAL STUDY

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Abstract

Vasti Karma is a unique and broad spectrum therapeutic and preventive approach. A Lot of emphasis has been given in our classics on *vasthi Karma* . Neurological problem in *Ayurveda* described mainly in the context of *vatavyadhi*. *Ayurvedic* treatments for neurological disorders will aim to correct the *vata* imbalance and bring the *vata dosha* in harmony with *Pitta* and *Kapha dosha* so as to eliminate the disease. People worldwide are affected by neurological disorders. There are over 600 known neurological disorders and conditions that affect the human nervous system and for many of them treatment options are extremely limited. The aim of this study is to analyze the effect of *vasthi karma* in neurological problems as a whole. In the present article, we have discussed certain important features of *vasthi karma*. Recent advancement in *Ayurvedic* Clinical Research shows that so many incurable neurological problems can be successfully treated by *Ayurvedic* medicines and *Panchakarma* therapies. Keywords: Mode of action of *Vasthi*, *Vata vyadhi*, Neurological disorders, Conceptual study.

Introduction:

Vasti karma is the most important among *Pancha karma* due to its multiple effects. *Pitta* and *Kapha* are dependent on *vata* as it governs their functions. *Vasti* is not only best for *vata* disorders but also equally effective in correcting the morbid *Pitta*, *Kapha*, and *Rakta*. *Charaka* Considered *Vasti* therapy as half of the treatment of all the diseases, while some authors consider it as the complete remedy for all the ailments. *Ayurveda* emphasizes more upon normal maintenance of health, prevention and curing of diseases through systematic follow up of regimens. *Ayurveda* has given more importance to *vatavyadhi*, it has been explained elaborately in *vedas*, *samhithas* etc. Almost all *Acharyas* describe the *vata vyadhi*. *Vata* is one of three dosha, but the diseases which are caused by *vata* are more in number than compare to *Kapha* and *Pitta*, separate chapter has been described in *samhithas*. From this point it can be seen that the *vatavyadhi* is really an important *vyadhi*. There are 80 types of *vatavyadhi*, but it may be many according to its location. The causes and pathogenesis of *vatavyadhi* is varying from disease to disease according to their site. *Vasti* is one of the unique procedure explained for the management of *vata vyadhi*. *Panchakarma* therapy is designed to eradicate the vitiated dosas and to maintain a state of normalcy and equilibrium, which is the fundamental basis of health, It is not necessary to apply all the five measures in therapeutics. Any one of these measures can be utilized to prevent or cure a disease. In the present study we will now concentrate on *vasti-karma* and explore its various dimensions. This conceptual study deals with the mode of action of *vasti* in *vatavyadhi*.

AIM AND OBJECTIVE:

To study the Mode of action of *vasthi* in neurological disorders (*vata vyadhi*)

VASTI-KARMA AND ITS APPLICATIONS:

Vasti karma is considered as the most important procedure in five fold *Panchakarma* therapy. The word *vasti*, stands for a special instrument known as *vasti yantra* used for enema therapy. Made of urinary bladder (*vasti*) of animals and *karma* stands for *chikitsa* or therapy. Thus *vasti karma* is a specific therapeutic procedure, in which medicines are administered into body through *gudamarga* (per rectum). Sometimes medicines are also administered by other routes, like *Urethra* or *vagina*, and then this procedure is termed as *Uttara vasti*.

TYPES OF VASTI:

There are various types of *vastis*, as described in *Ayurvedic* classics. These are based on anatomical, pharmacological and physiological but their number and nomenclature are different. Basically *vasti* can be classified into three types:

1. *Anuvasanavasti* 2. *Niruhavasti* 3. *Uttaravasti* (urethral/vaginal *vasti*) the same approach was also present in other *samhitas*¹.

However *Susruta* has classified *Vasti* in two types, under general classification. They are: A. *Niruhavasti* or *Asthapanavasti*. B. *Snaihikavasti* or *Anuvasanavasti*

Bhavamisra and *Sarangadhara* have supported the view of *Susruta* in this context.

INDICATIONS OF VASTI:

Vastikarma can be implicated in number of ailments in general. There is long list of indications: Specific ones are:²

ASTHAPANA VASTI:- (*Asthapya* and *anasthapya*)

The indications of decoction of *Asthapanavasti* are neurological diseases, diseases of GIT, gout intermittent types of fever, unconsciousness (by providing instant absorption of the materials through rectal mucosa), thirst, dysuria, calculi, menorrhagia, loss of appetite, pain in abdomen, hyperacidity and heart diseases, *Asthapana vasti* is contraindicated in patients who are excessively fat or debilitated, hiccup, cough, dyspnoea, piles, inflammatory condition of anus, skin disorder vomiting diarrhea, gastroenteritis, pregnancy ascitis and diabetes, etc, this *vasti* is also contraindicated in persons who have just taken their food. Broadly speaking main indications of *Asthapana vasti* can be grouped into four main categories.

1. In *vata Roga* and *vata Pradhana rogas*. 2. Diseases fit for *sodhana*, i.e. where *sodhana* of morbid *dosa* and *dusyas* are needed. 3. *Vata Asraya rogas*. 4. Diseases of gastrointestinal tract particularly of large intestine

ANUVASANA VASTI (ANUVASYA AND ANANUVASYA)

The indications of *Anuvasanavasti* are similar to *Asthapanavasti*. In addition, it is specifically indicated in pure *vatika* conditions or patients having excessive appetite (*Tiksnagni*) or in excessive dryness of body.

Anuvasana vasti should be given immediately after meals i.e. *Ardrapani*. because if it is given on empty stomach, then due to empty gastrointestinal tract, it can reach up to upper GIT and obstruct the channels and produces nausea, vomiting etc. The *Anuvasanavasti* is contraindicated in similar conditions as indicated for *Asthapanavasti*, Additional contraindication are *Navajwara*, Anaemia, jaundice, polyurea, Poisoning and filariasis etc. The administration of *Asthapanavasti* is useful for cutting and eradicating the morbid *dosas* at their base, it is like cutting the plant at the base. i.e. *sodhana* effect. The administration of *Anuvasana vasti* on the other hand increases the flow of *Snigdha dravyas* in the body like watering of a plant at its root, i.e. *Brimhana* effect.³

DISCUSSION

THERAPEUTIC EFFECT OF VASTI:

Sometimes *vasti karma* is wrongly considered as enema (retention) therapy. Actually it is fundamentally different than simple enema. Though in some situations simple enema shows its therapeutic effect in spite of procedural similarity to the enema therapy. *Vasti* therapy as number of actions, because of its unique formulations, further aided by medicines.

Depending upon the use of different drugs, *vasti* causes *samsodhana* or *samana* effects. It performs the *sodhana* of *Vata*, *Pitta*, *Kapha* and *vit* (faeces) and hence it is *tridosahara*.⁴ This therapy is very useful for the protection of health as a whole, It helps in rejuvenation and it provides happiness, long life, strength intelligence, clear voice and colour to healthy person. It is good for old as well as for the young. There is no obvious hazard in this therapy. It cures all kinds of diseases, due to its varied pharmacodynamics and various kinds of drugs used in its preparation.⁵ *Vasti karma* cures all the diseases relating to *shakha*, *kostha*, *Marmasthi* and *sandhi* etc⁶.

Though *vasti* therapy has its scope in all kinds of ailments implicating different types of *dosas*, *dusyas* and *Adhithanas*, *vasti* is supposed to be the specific treatment for *vatika* disorders, the relative importance of *vata* is already known and it has predominant influence on the three principal routs of diseases, which are *sakha*, *kostha* and *marma*, moreover it is responsible for the formation, communication and spread of biological humours (*Sweda*, *mala* etc,) *vasti* being the main therapy and it has a maximum importance, this is why, *vasti* therapy is said to be half of whole treatment and sometimes a complete treatment.

MECHANISM OF ACTION OF VASTI:

Vasti therapy is one of the most important therapeutic procedures in *Ayurveda*, Its effects are not limited only up to rectum and *samsodhana* of *malas* (faeces), but it produces widespread systemic effects. It is specifically indicated in *vatika* disorders, but with the addition of various types of medicines, it influences all the *dosas*, the next important question here is how does *vasti* act? Different views have been expressed by scholars, including some important researches carried in the department of *kayachikitsa*, institute of medical sciences, S.S. Hospital at *Banaras* Hindu University Varanasi. *Vata* plays a very important role in physiological action and production of diseases, *Caraka* is of similar views. He states the *pakwasaya* is the main seat of *vayu* and *vasti* strikes the root cause of *vata* and further normalizes its function.

Susrutha has stated that the actions of *vasti* are mainly due to *veerya* (Specific action or property). He further elaborates that the drugs used in *vasti-karma* will however spread in the body from *pakwasaya* due to their *veerya* through appropriate channels In the same way, as water sprinkled at the root of tree, circulates all over the tree by its own specific property (*veerya*)⁷ So *vasti karma* eliminates the morbid *dosas* and *dusyas* from the entire body (by *Srotosudhi*) whether lodged in an part. So its effects are also *tridosahara*.

In an important study, Sastry, M.K. and Singh, R.H. (1993) postulated four dimensional views for pharmacological action and therapeutic effects of *Vasti*, as follows:

Action of *vasti*, due to its unique procedure (Procedural effect)

Action of *vasti* due to *gunas* of the drug used in *vasti dravya* (Drug effect)

Action of *vasti* by *Srotosudhi* and *sodhana* of body (*Sodhana* effect)

Action of *vasti* by regulating the enteric nervous system or **GUTBRAIN** (Regulating effect on gut brain).⁸

Before going into detail and exploring new dimensions about mode of action of *vasti*, it will be beneficial to review the following:-

Applied anatomy and physiology of large gut in relevance to *Vasti* therapy.

Neurophysiology of large gut. 3. Microflora of large gut and its function.

The overall functions of the large intestine are the completion of absorption, the manufacture of certain vitamins, the formation of faeces and expulsion of faeces from the body. The structure of the colon varies more among mammals than does that of any GI organ. In man and man primates, the outer longitudinal muscle layer is not condensed into three thick bands, the *taeniae*, this arrangement characterizes most of the human colon except for the rectum and part of sigmoid colon where the *taeniae* broaden and fuse to produce a longitudinal muscle coat of uniform thickness around the colon. Tonic contraction of bands of the colon into a series of pouches called *austral* which give the colon its puckered appearance.

The myenteric plexus of most of the colon contains large uniformly spliced ganglia, that are connected by thick interganglionic fascicles and secondary and tertiary plexus are well developed. The density of the myenteric plexus is diminished in the ganglia and becomes both smaller and less abundant. The submucous plexus are also present in large intestine. The last stage of digestion occurs through bacterial action, not by enzymes as secreted by colon. Trough mucus is secreted in large gut no enzymes as secreted by colon. Through mucus is secreted in large gut, no enzymes are secreted. The bacteria ferment an remaining carbohydrates and release a few gases.

Several vitamins needed for normal metabolism including vitamin B and K, are synthesized by bacterial action and absorbed. The large intestine also absorbs water, electrolytes including sodium and chloride and some vitamins.

The nervous control of the gastro-intestinal system is mediated by enteric nervous system (ENS) and central nervous system (CNS). The ENS is an independent integrative system with structural and functional properties that are similar to those in CNS. Nerve supply is derived from midgut (up to near the splenic flexure) and hindgut (from there onwards). The parasympathetic supply to large intestine is partly formed by the vagi and partly from the pelvic splanchnic nerve. The sympathetic supply is from T10-L2. In whole GIT, there is a variety of neural receptors that can detect both chemical and mechanical stimuli. The transmission of chemical and mechanical stimuli to the target tissue is rapid and may involve only the ENS or sensor information may be processed in CNS⁹.

The human intestinal flora is highly complex with more than 400 bacterial species isolated from faeces. So, colon is a complex ecosystem that contains both aerobic and anaerobic microorganisms. The total bacterial count in the faeces is said to be 10¹⁰ -10¹² colony forming units per ml (CFU/ml). Although there may be fluctuations in the composition of the flora. It is still not known, what controls the indigenous microflora. It is obvious that by virtue of their enormous enzyme potential, the micro flora may have a wide range of influences on the physiology of host.

They actively participate in metabolism and nutrition. Various actions of the intestinal flora on the general physiology of host organism have been found.⁹

To return to our fundamental question, how *vasti* act? Any *vasti* can produce its effect in two ways:-

MEDICAMENTS EFFECT (Pharmacological Effect)

EFFECT OF VOLUME (Pressure Effect)

In the process of *vasti-karma*, several drugs are used for several purposes, in the form of decoctions with or without *snehadravyas*. The *vasti* is having its pharmacological effect due to the cumulative pharmacodynamic effect of various drugs used in the process. Basically *pakwasaya* is the seat of *vayu*. Apart from it, *Pakwasaya* is also the seat of various flora (parasites), especially faecal ones. Some of them are pathogenic and others are non-pathogenic. This concept is very well described by the *Caraka* in *vimanastana*. It is similar to microflora concept of intestine. Through the medicaments used in the *vasti*, it can alter the colonic physiology, *vasti* can counteract the factors, responsible for causation of disease. It is similar to *praktivighata* of *krimi-cikitsa*, with suitable combinations of drugs, *Vasti* can be useful in number of disorders.

Caraka states that, *Anuvasana Vasti* when given nourishes all the canals after reaching the *Nabhi* (main seat of

Sira and *Dhamani*)¹⁰. He also states a particular position for administering *vasti* with justification. So *vasti* can go deep into gastrointestinal tract and produces widespread effects. By proper volume, *vasti* also produces mechanical (pressure) effect and helps in various motility disorders.

C.Dwarikanath in early sixties suggested that *vasti* therapy by virtue of its medicaments greatly influences the normal bacterial flora of colon. By doing so, it modulates the rate of endogenous synthesis of vit B12 which is normally manufactured in bacterial flora of colon. This Vit B12 may have a role to play in the maintenance of regeneration of nerves. According to him, it was one of the possible mechanisms through which *vasti* could help in *vatika* disorders. However this hypothesis is to be tested on scientific parameters.

Devaraj. T.L. and Chaturvedi, G.N. (1971) also studied effect of *Panchakarma* therapy with special reference to *vasti karma* on colitis, they reported that this *vasti* increases the total serum protein and Hb%, reduces the ESR

there by suggesting that it arrests the disease process and improves the metabolism of protein. He also reported a significant degree of improvement in their absorption capacity of vit B12 which further help in maintaining the integrity of vata system. In another study, Tripathi, A.K et al (1996) also studied effect of *vasti* in colitis and found significant results especially vata predominant symptoms of colitis. Similarly Ediriweera, E.R.H.S.S et al

(1992) also reported that vasti therapy was more beneficial in cases with predominance of *vata* and *pitta* dosa.

VASTI AND GUT BRAIN:

In *Ayurveda*, much importance has been given to *vayu*. It controls the entire physiological functions in the human body. *Pakwasaya* is supposed to be main seat of *vata*. *Vasti chikitsa* is supposed to be best therapy for *vayu*. This is most probably due to its controlling and regulating mechanism over the enteric nervous system (ENS).

The autonomic innervation comprises components both extrinsic and intrinsic to the colon. The former includes the ganglia, plexuses and nerve fibers that serve the colon, but lies outside its wall. The latter consists of rich network of nerve fibers and ganglia cells situated within the layers of the colon wall, although the extrinsic components are clearly of greater functional significance. The connection by which the enteric nervous system of colon, these neural elements within the wall of bowel, integrates and modulates contractile events is still unclear, Wood (1981) described the enteric nervous system as "The brain of the Gut", that integrates informations received and issues an appropriate response. Enteric nervous system is connected to the central nervous system by for more afferent fibers than efferent fiber. Furthermore, gut brain (ENS) integrates sensor information from mucosal receptor and organizes an appropriate motor response from a choice of predetermined programmes. So enteric nervous system of gut brain is an independent integrative system with structural and functional properties, that are similar to those in CNS (Wood, 1981) and Physiological and pharmacological properties of *vasti cikitsa* are said to be outcome of modulation of Gut brain up to certain extent.¹¹

It is also reported in some studies (*Ayurvediya Panchakarma*- by Kasture) that after *vasti karma*, There is reduction of pyruvic acid content of ketoacids in blood, due to reduction in pyruvic acid content, there is rise in vitB1 in blood which is responsible for integrity of peripheral nerve functioning and prevents its degeneration. This vitamin also influences the heart and circulatory system.

CONCLUSION:

Vasti therapy is one of the most important therapeutic procedures in *Ayurveda*. Its effects are not only limited up to rectum and *samsodhana* of *malas* (faeces) but main focus of this study was on its action on the body. We have already discussed various views and studies. We are fully supported the views given by sastry, M.K. and Singh, R.H. (1993) about its possible mechanism of action. In addition we have said that *vasti* can produce its effect through medicament effect (pharmacological effects) and effect of volume (pressure effect). Thus with the help of suitable medicaments *vasti* therapy may modify the colonic physiology and alter pathogenic *krimis*, by *praktivighata*. On the other hand certain *vasti* may enrich the normal bacterial flora of the colon and may be expected to promote their sustaining role in body. By doing so, it modulate the rate of endogenous synthesis of Vit B12, which may have a role to play in maintenance or regeneration of nerves. Thus by improved functioning of neural system *vasti* could help in *vatika* disorders, secondly, *vasti* through the volume of its contents may produce an therapeutic intravisceral pressure influencing various receptors in rectum and lower part of colon and result may be absorption of medicaments leading to added *vasti* effect.

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