



SCIENTIFIC VALIDATION OF VASTI KARMA WITH IT'S MECHANISM OF ACTION

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ABSTRACT

Pancakarama therapy is designed to eradicate the vitiated Dosas and to maintain a state of normalcy and equilibrium, which is the fundamental basis of health. Any one of Pancakarama measures can be utilized singly too to prevent or cure a disease. Vasti Karma is a unique and broad spectrum therapeutic and preventive approach. Lot of emphasis has been given in our classics to Vasti Karma. In the present article, we have discussed Scientific Validation of vasti karma. Authors also tried to explore the possible mechanism of action of this important Pancakarma measure.

KEYWORDS: Panchakarma, Vastikarma.

VASTI-KARMA AND ITS APPLICATIONS

Vastikarma is considered as the most important procedure in five fold Pancakarma therapy. The word Vasti, stands for a special instrument used for enema therapy. Made of urinary bladder (Vasti) of animals and karma stands for chikitsa or therapeutic action.

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, 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 points of consideration, their numbers and nomenclatures. Basically Vasti can be classified into three types: (C.sid-10/8, A.H.S.-19/2)

1. Anuvasana Vasti (oleus Vasti)
2. Niruha Vasti (non-oleus Vasti)
3. Uttara Vasti (urethral/vaginal Vasti)

The same approach was also present in other samhitas. However Sushruta has classified vasti in two types, under general classification. They are: A. Niruha Vasti or Asthapana Vasti.

B. Snaihika Vasti or Anuvasana Vasti

Bhavamisra and Sarangadhara have supported the view of Sushruta in this context. It can be seen from various

samhitas that different types of vastis have been described in various contexts.

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 situation enema definitely as therapeutic effect, In spite of procedural similarity to 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 Vitt (faeces) and hence it is tridosahara (C.Sid=11/15 -18). 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 are no obvious hazards in this therapy. It cures all kinds of diseases, due to its varied pharmacodynamics and various kinds of drugs used in its preparation. Further, if the person is obese, his/her weight can be restored by this approach (S. Ci-35/3). Vastikarma cures all the diseases relating to sakha, kostha, Marmasthi and sandhi etc (A.H.S – 19/8486, A.S Sid -5, Bhela samhita Si 6/2).

Though vasti therapy has its scope in all kinds of ailments implicating different types of Dosas, Dusyas and Adhistanas, Vasti is supposed to be the specific

treatment for Vatika disorders, the relative importance of vata is already known and it as predominant influence on the three principal routs of diseases, viz-sakha, kostha and marma, moreover vata is responsible for the formation, communication and spread of biological humours (Sweda, mala etc.) Vasti being the main therapy for the same is on maximum importance, this is why, vasti therapy is said to be half of whole treatment and sometimes a complete treatment (C. Si1/40-41).

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. Vasti produces wide vata, Vata as a very important role in physiological action and production of diseases, Charak is of similar views. He states the pakwasaya is the main seat of vayu and vasti strikes the very root cause of vata and further normalizes its function.

Sushruta has stated that the action of vasti is mainly due to veerya (Specific action or property). He further elaborates that the drugs used in Vasti-Kara 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 but its own specific property (Veerya) (S.ci. 35/23-25). So vasti karma eliminates the morbid dosas and dusyas from the entire body (by Srotosudhi) whether lodged in a 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:

- (i) Action of Vasti, due to its unique procedure (Procedural effect)
- (ii) Action of Vasti due to drug used n process (Drug effect)
- (iii) Action of vasti by srotsudhi and sodhana of body (Sodhana effect) Action of vasti by regulating the enteric nervous system or GUTBRAIN (Regulating effect on gut brain).

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

1. Applied anatomy and physiology of large gut in relevance to vasti therapy.
2. 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 e expulsion of faeces form the body. Te 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 were the Taeniae broaden and fuse to produce a longitudinal muscle coat of uniform thickness around the colon. Tonic contraction of bands gate rte colon into a series of pouches called austral which give the colon its puckered appearance.

The mesenteric plexus of most of the colon contains large uniformly spliced ganglia, that are connected by thick inter-ganglionic fascicles and secondary and tertiary plexus are well developed. The density of the mesenteric plexus is diminished in the ganglia and becomes both smaller and less abundant. The sub mucous 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 and remaining in 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 a independent integrative system with structural and functional properties that are similar to those in CNS. Nerve supply being derived from midgut (up to near the splenic flexure) and hindgut (from there onwards). The parasympathetic supply to large intestine is partly from the vagi and party form the pelvic splanchnic nerve. The sympathetic supply is form T10-L2 In whole GIT, there are a variety of neural receptor, that can detect both chemical and mechanical stimuli. The transmission to the target tissue is rapid and may involve only the ENS or sensor information may be processed in CNS.

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 aerobic micro organisms 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 b virtue of their enormous enzyme potential, the micro flora may have 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.

To return to our fundamental question, How Vasti acts? 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 form of decoctions with or without sneha dravyas purposes, in form of decoctions with or without sneha dravyas. The vasti is having its pharmacological effect due to the cumulative pharmacodynamic and pharmacological effect due to the cumulative pharmacodynamic and pharmacokinetic 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 krimis (parasites), especially faecal ones. Some of them are pathogenic and others are non-pathogenic. This concept is very well described by Charak in vimanstana. It is similar to microflora concept of intestine. Through the medicaments used in the vasti, it can alter the colonic physiology, vasti can counteracts the factors, responsible for causation of disease. It is similar to praktivighata of krami-cikitsa. So, suitable combinations of drugs, vasti can be useful in number of disorders.

Charak states that, Anuvasana Vasti when given nourishes all the canals after reaching the Nabhi (main seat of Sira and Dhamni) (C.Si-1/30-31). He also states a particular position for administering Vasti with justification. So vasti can go deep into gastrointestinal tract and produces widespread affects. By proper volume, vasti also produces mechanical (pressure) effect and helps in various motility disorders.

C.Dwarikanath in early 16th 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 by colonic flora. 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 set to be tested on scientific parameters.

Devaraj. T.L. and Chaturvedi, G.N. (1971) also studied effect of pancakarma therapy with special reference to vastikarma 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, Tripathi, A.K et al (1996) also studies effect of vasti in

colitis and found significant results especially vata predominant symptoms of colitis. Similary 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 as been given to vayu. It controls the entire physiological functions in the human body. Pakwasaya is supposed to be main seat of vata. Vasti cikitsa is supposed to best therapy for vata. 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 later 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 circuitry 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 information received and issues and appropriate response. Enteric nervous system is connected to the central nervous system by for more afferent fibers than afferent fiber. Furthermore, gut brain (ENS) integrates sensor information from mucosal receptor and organizes an appropriate motor response form 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.

It is also reported in some studies (Ayurvediya Pancakarma- by H.D. Kasture) that after vastikarma, There is reduction of pyruvic acid content of ketoacids in blood, Due to reduction in pyruvic acid content, there is rise in Vit-B₁ 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 article 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-V₁₂, 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 intra visceral 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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