REVIEW ARTICLE

A Review on the Pharmacodynamics of Bastikarma

Nirmal Bhusal\textsuperscript{1}, Sunita Acharya\textsuperscript{2}

\textsuperscript{1}Assistant Professor, Tribhuvan University, Institute of Medicine, Ayurveda campus, Kirtipur, Nepal. \textsuperscript{2}Ayurveda Physician, NARTC, Kirtipur

ABSTRACT:

Basti Karma is the most widely used and highly effective treatment modality in Panchakarma. Basti is a therapeutic procedure in which the drugs administered into the anal canal resides in large intestine for a certain period to nourish the body as well as to draw the waste products from all over the body into the colon and to eliminate them out of the body by producing movements in the colon. Though Basti is specially indicated for Vatika diseases it is also mentioned in vitiation of all the Vata, Pitta, Kapha, Rakta Doshika disorders. Correctly given Basti will stay in the Pakwashaya, Shroni, Nabhi and Adhobhaga. Basti Dravya will reach the entire Srotasa, in view of its Veerya and produces alleviating action Shamanadi Karmas. References regarding Basti Karmuktwa were collected from various classical and Ayurveda published works, published research papers from Pub Med, Google Scholar and compilation was done. Concept of Pharmacodynamics of Basti was studied in detail. Basti is most often recommended practice in Vata Roga Chikitsa. Most of the previous studies have emphasized on the importance of Basti in Vata Vyadhis; however there were limited studies carried out on pharmacodynamics of Basti only. Pharmacodynamics outcome of Basti Karma may be due to functioning of the one or more effect of different mechanism.

Key Words: Basti Karma, Pharmacodynamics, Panchakarma, Karmuktwa

INTRODUCTION

Basti is the most widely used and highly effective treatment modality in Panchakarma. “Basti Vataharanamshrestham” is the one of the important quotation mentioned by Charaka Acharya in Agradravyas.\textsuperscript{1} Basti is supposed to be half of the Chikitsa (treatment)\textsuperscript{2} and it is called best for the Vata – Vyadhi / Vata Dosha\textsuperscript{3} Vata is the chief and dominant amongst the Tridosha.\textsuperscript{4} Basti Chikitsa is the first line of treatment for the elimination of Vata-Dosha from the body.\textsuperscript{5} It eliminates vitiated Vata-Dosha and regulates the normal- functions of Vayu in the body. Basti process is in practice since ancient times in Ayurveda system of medicine for various diseases. Though Basti is specially indicated for Vatika diseases but it is mentioned in vitiation of all the Vata, Pitta, Kapha, Rakta Doshika\textsuperscript{6} disorders. Acharya Charak states Basti 1\textsuperscript{st} act on Pakwashaya and keep the Vata in Samavastha (balanced stage). It produces Chedana of Vata. So all the Vata Vikaras will be diminished just like the tree which is cut by its root loses the extremities, stem, Shakha, Kanda, Pushpa etc. Just like sprinkling water to the root of a tree, the flower, barks, branches, fruits etc. will get their nutrition, Anuvasana Basti will also produce cooling to the head and there by Tarpana to the body.\textsuperscript{7} It acts on the Rasadi Saptadhatus. According to Chakrapani the correctly given Basti will reach in the Pakwashaya, Shroni, Nabhi and Adhobhaga. Basti Dravya will reach the entire Srotasa and produces alleviating action
Shamanadi Karmas. Administration of Basti docs Shodhana of Mala and Doshas. Basti is a therapeutic procedure in which the drugs administered into the anal canal by using ‘Basti’ i.e. urinary bladder of animal resides in large intestine for a certain period to nourish the body as well as to draw the waste products from all over the body into the colon and to eliminate them out of the body by producing movements in the colon. This review study was done to study the Karmukatwa of Basti.

MATERIALS & METHODS:

References regarding Basti Karmukatwa were collected from various classical and Ayurveda texts, published works, published research papers from Pub Med, Google Scholar and compilation was done. Concept of Pharmacodynamics of Basti was studied in detail.

Description on Karmukatwa Of Basti Karma

The classical literature of Ayurveda described great significance to Basti Karma. The Basti-Dravya produces Shodhana of vitiated Doshas and also has Samshamana effects.

Basti is classified on the basis of Adhistana Beda (Place of Administration) Pakwashaya Gata Basti (Rectal Route), Mutrashaya Gata Basti (Urethra-Vesical Route), Garbhashaya Gata Basti (Uterine Route) and Vranagata Basti (Wound Route), Dravya Bheda: Niruha Basti (Decotion (Quatha Based), Anuvasa Basti (Oil Based), Sankhya Bhed: Yog Basti (8 Bastis), Kala Basti (15 Or 16 Basti), Karma Basti 30 Basti.

Matrabbheda Dwadasa Prasrutha Basti- 1200ml, Dasa Prasrutha Basti-1000ml, Pada Heena Basti - reduce one quarter from the total quantity of Dwadasa Prasrutha Basti, Prasrutha Yogika Basti 300-600ml. Basti can be given generally to the persons who are suffering from abdominal tumor, distention of the abdomen, Khuda (gout), diseases of the spleen, diarrhea unassociated with other diseases, pain the abdomen, chronic fever, running in the nose, obstruction of semen, flatus and faeces, enlargement of the scrotum and faeces, urinary stone. Persons generally unsuitable for Basti are those who have had excess of olation therapy; injury to the chest, highly emaciated, diarrhea due to Ama, vomiting, who have undergone purificatory therapies who have been administered nasal medication, who are suffering from dyspnoea, cough, salivation, piles, flatulence, weak digestion, swelling of rectum, diabetes mellitus.

Basti Karma in its different forms has a very broad scope. Basti induces restoration of Semen, increased anabolic activities in emaciated persons, Karshana in obese persons, improvement in vision, prevention of aging, increase in luster, strength and longevity. Niruha-Basti is Vayaasthapan (prevention of aging), Sukhayukara (promotes strength, appetite, intellect and body luster). It is useful in all kind of diseases, in all kind of patients including children, old and young. It regulates Vita, Shleshma, Pitta, Vata and Mootra etc. It gives strength to all the body especially to Shukra Dhatu removing the accumulation of Doshas from the body. Acharya Sushruta further states that not only in Vata dominant diseases but also Pittaja, Kaphaja, Rakta, Samsargaja and Sannipatitaja disorders; Basti is fruitful. Anuvasa Basti, after the use of Niruha Basti gives soothing effect on the purified Marga or Srotas (Micro Channels) and increases the body luster and strength. Oil is the best remedy for Vataja disorders with its Snigdha, Guru and Ushna properties. It gives instant Tranquilizing effect and potentiates. Veerya, Balu, Varna, Agni and Pushti.

The Basti Dravya located in Pakwashaya removes the Sanchita (accumulated) Doshas from the Prishtha, Kati and Koshtha Pradesha. According to Acharya Vaybhhat Basti therapy has major scope in all kind of ailments implicating different types of Doshas, Dososha and Adhisthanas. Basti is supposed to be the principal treatment for Vatika disorder.

The relative importance of Vata is already known as it has predominant influence on three principal routes of the disease namely Shaka, Koshtha and Marma-Asthi-Sandhi. Moreover Vayu is responsible for the spread of Sweda, Mala, Mootra, Kapha and other biological substances in the body. Basti being the principal treatment of Vata is considered the therapeutic procedure of maximum importance and also Basti Chikitsa is considered half of the whole Chikitsa (treatment).

DISCUSSION:

Though the effect and safety of Panchakarma is well established by the evidence of experiences since many centuries, their mode of action in front of contemporary scientific point of view is still a question. The pharmacodynamics of systemic effect of Basti may be understood through absorption mechanism, concept of
system biology, neural stimulation mechanism and excretory mechanism.

**By absorption mechanism:** *Basti* is the prime subject of interest for modern scientific community. With this background the basic question which comes forward regarding *Basti* is, “do active principles of drugs used in *Basti* get absorbed in systemic circulation?” Considering absorption factor Swapnil et al.20 carried out a study in which they have given *Triphala* decoction *Basti* containing biomarker gallic acid and after *Basti* they traced it in the circulation. The rectum has rich blood and lymph supply and drugs can cross the rectal mucosa like other lipid membrane.

**By System Biology Concept:** This theory believes that all the organs are interconnected at molecular level. Any molecular incident is transformed at cellular level, then tissue level and ultimately at organ level. Each molecule of the body is in contact with another molecule of body directly or indirectly, if we alter the pathophysiology at one level results into changes in pathophysiology at another level. Thus, whatever the effects of *Basti* are on Gastro intestinal system, it will definitely affect another systems and helps to achieve the bodily internal homeostasis. Thus the concept of system biology makes this clearer how *Basti* can act on the various systems.21

**By Neural Stimulation Mechanism:** The gastrointestinal system has a network of nerve fibers, which is known as ‘Enteric nervous system (ENS). Similar to brain ENS sends and receives impulses, record experiences and responds to various emotions. Its nerve cells are bathed and influenced by same neurotransmitters. Gut brain (ENS) is located in the sheaths of tissue lining the oesophagus to colon. ENS is loosely connected with central nervous system (CNS) through vagus nerve and can mostly function alone, without instruction from top. Internal viscera are again highly supplied with nerve fiber of Autonomic Nervous System which in turn has connection with CNS. ENS works in synergism with the CNS. Again it is not mandatory for a drug to stay in long time contact to the receptor e.g. like in Pro-ton Pump inhibitor where drug interact and flush out from circulation, it is known as “HIT AND RUN MODULE” of pharma- codynamics. Same module of pharmacodynamics may be hypothesized for *NiruhaBasti*.21,22

**Excretory Mechanism:** *Niruha Basti* is hyper osmotic solution24 which causes movement of solvent from cells of colon to the lumen containing *Basti Dravya* facilitates the absorption of endotoxin and produce detoxification during elimination. *Kalka* used in the *Basti* has got irritant property along with other ingredients which may induce colonic distention. The distention stimulates pressure which produces evacuatory reflex. The sigmoid, rectal and anal regions of large intestine are considerably better supplied with parasympathetic fibers than other part of intestine; they are mainly stimulatory in action and function especially in defecation reflexes. *Basti Dravyas* inserted into the sigmoid colon via anus is absorbed through rectal veins and via portal vein it spreads to whole body and produces its effect.25 Moreover it certainly affects the enteric nervous system and through neurotransmitters present in the enteric system it acts on the brain via spinal tract and produced its effect on whole body. The *Virya of Basti* administered through the *Basti* into the *Pakvashaya* reaches the whole body through the channels (Srotasas), as the active principles in the water when poured at the root of the tree reaches the whole plant.26 *Basti* administered into *Pakvashaya* draws the Dosha/Mala from all over the body from the foot to the head by the virtue of its *Virya*, just as the sun situated in the sky draws the moisture from the earth by its heat.27 *Vayu* is considered to be the main controller of the body. Now if *Vayu* alone or in combination with other *Dosha* get vitiated then *Basti* by the way of evacuation or elimination normalizes the path of *Vayu* along with *Pitta*, *Kapha* and faecal matter. The composition of the enema (solid vs. liquid, nature of the suppository base) appears to be an important factor in the absorption process by determining the pattern of drug release. For a number of drugs, the extent of rectal absorption has been reported to exceed oral values, which may reflect partial avoidance of hepatic first-pass metabolism after rectal delivery.28 Lot of emphasis as been given in our classics to *BastiKarma*.29 According to the classical texts basti administration is done with the help of animal bladder (*Bastiputaka*) and specially prepared metal/wooden nozzle/catheter (*Bastinetra*), the whole assembly is called as *Bastiyantra*. Nowadays *Basti* administration is often done using enema-can or douche-set. In the aforesaid classical procedure active pressure is expected to be given on the *Bastiputaka* whereas, in conventionally used enema-can only passive or gravitational force plays a role.30 This may also change the *Karmuktwa*.
of Basti. Thus Basti Karma has unique and broad spectrum therapeutic and preventive approach.

CONCLUSION:

Basti by eliminating morbid content of large intestine will definitely put a positive impact on the other system of body help in maintaining health as whole. Neuro gastroenterology helps us to understand relation between gut’s brain and CNS by this we can explore systemic effect of Basti easily. Pharmacodynamic outcome of Basti Karma may be due to functioning of the one or combined effect of different mechanism.

ACKNOWLEDGEMENTS: Not Applicable

ABBREVIATIONS: Not Applicable

SOURCE OF SUPPORT: None

CONFLICT OF INTEREST: Author declares that there is no conflict of interest.

REFERENCES:


How to cite this article: