MODE OF ACTION OF NIRUH BASTI (MODERN VIEW)

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Abstract:
Ayurveda is an ancient science of medicine. It originates from Atharv veda and since vedic period to till date its principles, medicines, and treatment modalities like panchakarma were proved very useful for treatment of various diseases. Niruh basti is one of the panchakarma modality which has very surprising effect on various systems present in our body. In this article we are describing mode of action of niruh basti according to modern science.

Key words: Niruh basti, mode of action.

Introduction:

Panchakarma is unique modality of ayurvedic treatment consisting of vaman, virechan, basti, nasya, raktamokshana. Out of above five karmas, basti is considered as most important chikitsa. It completely eliminates the vitiated vata dosha which is responsible for all the diseases. Due to its multifocal effects Basti is stated as “Ardha chikitsa3”.

Niruh Basti:
Basti is of two types according to the medium used for basti dravyas2.

Niruh basti: basti dravya is in form of decoction of various dravya.
Anuvasan Basti: Basti dravya is in form of oil or ghrut.

Here we are going to elaborate the mode of action of niruh basti according to modern science. First of all we will see constituent of niruh basti.

Constituent of niruh basti3

1) Makshikam (honey)
2) Saindhav (Rock Salt)
3) Sneha (oil,ghee,Vasa)
4) Kalka (Paste of Herbs)
5) Kwatha (Decoction of Herbs)

1) Makshikam (Honey):
Honey is madhur and kashay in taste, chedan and ruksha in guna and ushna in virya. It is kaphahara and vran shodhana in nature. The most important property of honey in context of Basti is “yogavahitvam” and “sukshmamarga anusaritam”. Yogavahi means catalyst in action. Suksha anusarita is the potency to penetrate the minute capillaries of the body (by increasing osmotic permeability). Honey is rich source of sugars like fructose, glucose, sucrose, maltose, lactose and other disaccharides and trisaccharides. It also contains proteins, fats, vitamins, minerals, enzymes and amino acids. Because of it honey becomes natural product with high nutritional and medicinal value.

2) Saindhava (Rock Salt)

Saindhav is a type of lavan (salt). It is Madhur in vipak, tridosh hara, laghu and suksma in guna, unushna in virya. Saindhav contains 21 essential and 30 accessory minerals, 98% sodium chloride only. A trace of potassium is also seen. It is useful in regulating acid-alkaline balance, maintaining osmosis, activation of ATP phase. It removes excess acidity; generate hydroelectric energies in cell for nerve cell communication.

Note: Makshikam and Saindhav in Basti represents source of glucose and electrolyte and thus prevent dehydration. Salt has property of stimulating ionic action potential which may be the causative factor for the mode of action of basti.

3) Sneha:

Pakwashaya is ashray sthan of vata. The medicine administrated at pakwashaya should contain sneha dravya to compassionate effect of vata. The sneha added in basti will lubricate the colon, Soften the malas and help to eliminate it without strain.

Among the four snehas, taila is used for vata kapha condition and ghruta is used in vata pitta condition.

4) Kalka:

Kalka is the drug which gives potency of whole combination. It is observed that sign of dehydration occurs if quantity of kalk is increased. Kalka helps in disintegrate the malas by increasing osmotic permeability of the solution.

Different combinations are mentioned in sushrut samhita for different basti yogas. “Satahva” is the most commonly used drug as kalka in basti yogas.
Putoyavanyadi kalk\(^9\) is mentioned in Ashtang hrudaya is used as common kalk dravyas whenever kalk dravya is not mentioned specifically. Putoyavanyadi kalk consist of yavani, madanphal, bilwa, kushta, vacha, satahva, musta and pippali.

5) Kwatha:

*Kwatha* is decoction of *basti dravyas*. The mode of action of basti like vatahara or pittahara or kaphahara depends on the *gunas* of kwath dravya. It also helps in maintaining volume and helps in spreading and cleaning. Its *vatahara dravyas* provides *anuloman* and *nirharan* of *doshas*. The decoction is made as per the Basti yogas mentioned in the classical text. *Madanphala* is common ingredient of most of the *Niruh Basti*.

Mode of action of basti according to Modern science:

**Osmosis:** - Osmosis is when a substance crosses a semipermeable membrane in order to balance the concentrations of another substance. In biology, this is usually when a solvent such as water flows into or out of a cell depending on the concentration of a solute such as salt. Osmosis happens spontaneously and without any energy on the part of the cell\(^10\). *saindhav* in *niruh basti* make it hyper osmotic which causes movement of endotoxines from cells of colon to lumen and facilitates elimination of endotoxines thus it helps in detoxification process.

**Pinocytosis:** - Basti may act by pinocytosis mechanism. Pinocytosis is a mechanism for transport of molecule across membrane. Pinocytosis is the method by which a cell absorbs small particles outside the cell and brings them inside. The word pinocytosis comes from the Greek for “cell drinking”. During this process, the cell surrounds particles and then “pinches off” part of its membrane to enclose the particles within vesicles, which are small spheres of the membrane. This process is usually used for taking in extracellular fluid (ECF)\(^11\).

**Rectal mucosal absorption:** - The rectal mucosa has rich blood supply. Basti dravya contains *saindhav, honey, sneha, kwath, kalka* forms emulsion if churning it in specific manner as described in the text. Because of this specific churning long chain fatty acid may break down to small chain fatty acid which can easily get absorbed in rectal mucosa and through inferior rectal vein it directly
In research study done at Jamnagar it is reported that thrinaladi basti containing biomarker- garlic acid found in the systemic circulation. This study proves the basti dravya are getting absorbed through rectum in systemic circulation and it bypasses the hepatic metabolism.

Cleansing action: - In view of some researcher niruh basti acts by its cleansing action. According to them as time passes, waste begins to stuck on the wall of colon and blocks the intestinal glands openings as a result intestines get distended as well as process of absorption nutrients and elimination waste from lumen get hampered. Niruha basti facilitate the cleansing of the lumen of the intestine and helps in maintaining the normal intestinal flora.

Enteric Nervous System (ENS):-The gut has its own mind ‘Enteric Nervous System’ just like large brain. This system sends and receives the impulses, records experiences and responds to emotions. This ENS contains 100 millions of neuron which are more than that of spinal cord. These are embedded in the wall of gut. A big part of our emotions are probably influenced by these nerves in gut. Basti may act all over the body by this system.

Serotonin:- 95% of serotonin found in the bowel. Serotonin (5 hydroxy tryptamine/5HT) is a neuro transmitter that has tremendous effect over brain for many functions like sleep, appetite, memory, mood behaviours (including sexual and hallucinogenic), pain. Basti may act on serotonin level and helps to pacify the disease related neurological, psychological etc.

Absorption of vitamins:-Absorption of vitamins and minerals through colon is an established fact. Makshikam (honey) contains Thiamin, Riboflavin, Niacin, Pantothenic acid, Pyridoxine, Ascorbic acid (vit-c) in good amount. In a study of basti therapy it is revealed that the pyruvic acid gets decreased in the blood which indicates the increase in vitamin B1.

Immune modulation effect of basti:-In another study mustadi yapan basti is seen to be reduce the TB specific IgG and IgM in a significant amount which clearly denotes the immune modulation effect of basti therapy.

Discussion:
According to above various hypotheses we here try to describe actually how the action of niruh basti take place after it administrates through anus. And how the constituents and there proportion and method of formation according to the samhitha are very important for getting desirable effect. Honey is rich source of sugar. It also contains proteins, fats, vitamins, minerals, enzymes and amino acids. Because of it honey becomes natural product with high nutritional and medicinal value. Saindhav is useful in regulating acid-alkaline balance, maintaining osmosis, activation of ATP phase. It removes excess acidity; generate hydroelectric energies in cell for nerve cell communication. Makshikam and Saindhav in Basti represents source of glucose and electrolyte and thus prevent dehydration. Salt has property of stimulating ionic action potential which may be the causative factor for the mode of action of basti. The sneha added in basti will lubricate the colon, Soften the malas and help to eliminate it without strain. Among the four snehas taila is used for vata kapha condition and ghruta is used in vata pitta condition. Kalka helps in disintegrate the malas by increasing osmotic permeability of the solution. The mode of action of basti like vatahara or pittahara or kaphahara depends on the gunas of kwath dravya. It also helps in maintaining volume and helps in spreading and cleaning.

Conclusion:

According to above discussion niruh basti is absorbed by gut and acted upon various systems in our body by the phenomenon of osmosis, pinocytosis, Absorption through rectal mucosa and enter into systemic circulation and bypass portal circulation and thus gives immediate effects. Niruh basti also stimulates the enteric nervous system and regulate the serotonin level which is produced by gut and responsible for various neurological and psychological activities. Some basti like mustadi yapan shows immunomodulation effect. As the conclusion of all the above points Basti chikitasa is proved as Ardha chikitsa as it has multifocal effect on various systems in our body.

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