AYURVEDA EXPLORATION OF PHARMACOKINETICS OF SNEHA BASTI - A REVIEW ARTICLE

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ABSTRACT
Pharmacology is concerned with the movement of drugs within the body. The oral ingestion of lipids/fats get converted into lipoproteins; further utilised in different forms at various needs of life and excreted in excess. In Basti karmukata (action of Basti) it is rightly said that the action is achieved with the Virya and prabhava. In this way Basti reaches all over the body, churns the dosha sanghata (bonded humours) and eliminate the vitiated doshas from the body. The exact mechanism through which the benefits are obtained is yet to be ascertained with the help of contemporary science. It is also not clear that when Sneha Basti is administered the active principles in the formulation gain entry in to the systemic circulation or not. With these concepts of different conventional methods of intervention, an attempt is made to understand the pharmacokinetics of Sneha Basti.

Keywords: Sneha Basti, Lipid metabolism, Pharmacokinetics

INTRODUCTION
Lipid metabolism is the break down or storage of fats for energy; these fats are obtained from the regular diet. When a lipid is ingested minimal or no digestion is seen in mouth, some amount of lipid is acted upon by stomach enzymes, whereas maximum digestion of lipids takes place in small intestine with the help of bile salts, pancreatic enzymes and intestinal lipase¹

Basti is that which does both Shodhana (cleansing) and Shamana Kriya (alleviates). The disease present anywhere in the body gets cured even though the medicines are administered through anal route². With this concept we can understand that gudagata sneha Basti is absorbed and circulated all over the body. There are research studies which have proved the presence of active principles of Basti dravya in blood after a stipulated time³. But there is no/less research works about the presence of sneha amsha (unctuous substance) in the body after sneha basti treatment. A research study has stated⁴ that the body gets oleated when sneha is administered through anal route and can be an alternative method of administration for Snehapana (oral intake of oleagi-
nous substances). With these evidences this is an attempt made to understand the pharmacokinetics of Sneha Basti.

**MODE OF ABSORPTION OF SNEHA BASTI**

01. **CLASSICAL APPROACH TOWARDS THE ABSORPTION OF BASTI:**

A. The Basti when administered first reaches the rectum then the intestine (Pakwashaya). Pakwashaya extends from Grahani (duodenum) to Guda Moola sthana of Pureeshavaha srotas are pakwashaya and sthulaguda. Grahani is nothing but the pitta dhara kala, pitta dhara kala is not different from majjadaha kala, in the same way pureeshadhara kala is not different from asthidhara kala. This shows that basti has direct effect on asthi and majja Dhatu.

B. Absorption through Dhamani/sira (Arteries/Veins):

Nabhi (umbilicus) divides the body into two parts. Nabhi is the moola sthana of Dhamani and Sira. Among 24 Dhamanis, 10 supplies above the umbilicus, 10 supplies below umbilicus, last 4 go in Tiryak marg'a and they split again as innumerable. Thus spread throughout the body as a network. This shows that the basti dravya when reaches Nabhi pradesha spreads all over the body as well as the affected site and thus disease is relieved.

C. **Sneha basti is tridosha shamaka:**

If vata dosha is vitiated, 9-11 Sneha basti is advised, pitta dosha 5-7 Sneha basti and Kapha dosha 1-3 ayugma (odd number) Sneha basti should be administered. 1 or 2 Sneha Basti becomes insufficient in depletion of disease, probable reason may be that vata owns the properties of Ruksha (dryness), laghu (lightness) sheeta (cold), khara (roughness) when it is in pravruduhaavastha (aggravated); one or 2 Sneha basti will not be beneficial to reach the severity. Therefore there is a need of maximum 11 basti to relieve the vata dosha situated wherever in the body.

D. **Basti vyapat (complications) in Sneha Basti:**

When we observe the symptoms produced by the basti vyapat it is either sthanika or saarva daihika. In Vata avruta Sneha basti there is a symptom-jwara (fever) seen because of agni mandya (lack of appetite). This shows that basti is acted upon by the agni (digestive fire). When agni fails to metabolise the lipid leads to disease. Thus it can be concluded that even the rectal administration of basti travels all over the body after coming in contact of agni.

02. **CONTEMPORARY APPROACH TOWARDS THE ABSORPTION OF SNEHA-BASTI:**

In allied science rectal mucosal route is preferred for systemic effects if other routes are not advisable. Rectal administration provides rapid absorption of drugs and becomes an easy alternative to the intravenous route, advantage is relatively painless. The rate of rectal Trans mucosal absorption depends on the following factors:

1. Formulation
2. Volume of liquid
3. Concentration of drug
4. Length of catheter
5. Presence of stool in the rectal vault etc

Drugs administered high in the rectum (drained by the superior rectal veins) are usually carried directly to the liver, and thus, are subjected to metabolism. Drugs administered low in the rectum are delivered systematically in the inferior and middle rectal veins before passing through the liver. This gives an idea in clinical implications of rectal venous drainage for absorption and metabolism of any drug used in Basti.

The volume mostly controls the retention of basti inside the lumen. The standard dose of Niruha Basti is more in quantity where as Sneha basti are designed to be less in quantity to retain in the body for at least 3 Yama (9 hours).
Concentration or pH of the oil/ghee/fat also plays an important role in the retention and absorption of Basti. Highly concentrated medications are quickly evacuated, this may be the reason that the soup water enemas do not retain for longer in the body and are evacuated with the stool to attain the cleansing action of the intestine. Therefore the Sneha basti which are sticky by nature retain in the intestine which may probably activate the nerve endings and is absorbed by the plasma/mucosal layers.

Length of the catheter is another aspect to consider for the healthy absorption of oil enema. High up insertion may fail to allow the basti to be in rectum for some time. It may cause ill effects on the body. Therefore in texts there is well mention about the size and length of catheter to have the beneficial effects of basti.

**DISCUSSION**

Ghruta (ghee), taila (oil), vasa (muscle fat) majja (bone marrow) are used both in the Niruha and Sneha basti. For absorption and digestion of sneha generally bile, gastric lipase, pancreatic lipase, etc are necessary. Chakrapani has solved this by stating that fat adhered to the colon is acted upon by agni located above the colon while it exudates to the exterior. This is specially inking about presence of some factors of digestion there which is not yet discovered. Short chain and medium chain fatty acids are present in ghruta, dugdha (milk) and natural oils. These fatty acids are absorbed through the wall of the colon as they do not require bile salt or pancreatic lipase or micelle formulation for absorption.

There is another concept of first pass metabolism, a phenomenon of drug metabolism whereby the concentration of a drug is greatly reduced before it reaches the systemic circulation. It is the fraction of drug lost during the process of absorption which is generally related to the liver and gut wall. Alternative routes of administration like suppository, intravenous, intramuscular, inhalational aerosol, transdermal and sublingual avoid the first-pass effect because they allow drugs to be absorbed directly into the systemic circulation.

In the recent advancements the Gut Brain theory has evolved which has the action of receptors. The gastrointestinal system has a network of nerve fibres, which is known as ‘Enteric nervous system’ (ENS). Similar to brain ENS sends and receives impulses, record experiences and responds to various stimuli. Gut brain possess n number of neurotransmitters. ENS is loosely connected with central nervous system (CNS) through vagus nerve and can mostly function alone, without instruction from top. Thus ENS works in synergism with the CNS. Stimulation by the Basti (either by chemo or mechano receptors) may lead to activation of concerned part of CNS which precipitates result accordingly. There is close resemblance in the functioning of Vata Dosha and nervous system. Sneha Basti is prescribed as the best remedy for Vata. It again validates the efficacy of Basti karma on nervous system.

**CONCLUSION**

Basti by eliminating morbid content from the large intestine will definitely put a positive impact on the other system of body also. Intervention is either oral or anal there is absorption of administered drugs. As main site for vata dosha is pakwashaya, better management can be done through nearer route by Sneha basti. Thus the absorption mechanism dealt till gives a hint about probable metabolism and absorption of the drugs via rectal route also.

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