



## Review Article

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### A REVIEW ON THE MODE OF ACTION OF SNEHA IN KOSHTA DURING SODHANA SNEHAPANA

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#### ABSTRACT

Snehapana is considered as one of the most important purvakarma (preparatory measures) of sodhana therapy because of its ability to create doshotklesha in the body which is the prerequisite of sodhana karma (elimination therapy). The aim of the snehapana therapy is to prepare the body for sodhana karma and helps to bring the doshas situated in peripheral tissues to the koshta (bowel), so that they can be easily expelled out. This is achieved by vridhi (increase) and vishyandana (dissolution or diffusion) karma of snehapana therapy. snehana decides the whole outcome of sodhana therapy. If snehana is not done properly, it definitely affect the sodhana karma performed afterwards. Without the proper digestion and absorption of sneha in koshta it cannot produce samyak snigdha lakshana (the symptoms appear in proper oleation) in the body. Hence the mode of action of sneha in koshta during snehapana should be thoroughly studied for the success of snehapana therapy.

**KEY WORDS:** koshta, snehapana, samyak snigdha lakshana

#### INTRODUCTION

Snehapana is one of the unique treatment principle of Ayurveda. Snehapana or internal oleation is the most important purva karma to be performed before sodhana treatment because the whole outcome of sodhana procedure depends upon the proper mobilization of doshas from the shakha (peripheral tissues) to koshta which is to be achieved with the help of snehana and swedana (sudation therapy). Snehapana is the process of administering sneha (fat) to achieve the desired effect in a precise duration prior to vamana (therapeutic emesis) and virechana karma (therapeutic purgation). Sneha undergoes various digestive process in koshta as a result, it creates doshotklesha which is the prerequisite for sodhana therapy. Koshta is considered as the seat of all doshas. During the samprapti (pathogenesis) of a disease doshas spread from their principal seat i.e. koshta in upward, downward, and transverse direction<sup>1</sup>. To eliminate disease, two types of treatment are advised in ayurveda, i.e. sodhana and samana (pacificatory procedure). The diseases eliminated by sodhana will not recur. The aim of snehana and svedana is to bring out vitiated doshas from the sakhas back to the koshta and to remove them from the body by sodhana treatment. After these purva Karma, consequently the doshas in the sakha are brought to koshta; doshas in the leenavastha (the deep seated doshas) change to prachala or pravahana avastha<sup>2</sup> (displacement) due to which they could be removed easily. The doshas are moistened by the snehana, and liquefied by swedana and can be easily expelled out by sodhana treatment.

#### KOSHTA

There are three types of koshta based on predominance of doshas such as 1) krura koshta, 2) mrudhu koshta, 3) madhya koshta. In krura koshta predominance or increase of vata produces hard faeces with difficulty of elimination or even non elimination. In mrudhu koshta predominance or increase of pitta dosha causes watery or semisolid faeces, expelled out more than once or twice

in a day. In madhya koshta predominance or increase of kapha dosha causes soft, solid faeces moving out smoothly. According to Ashtanga hrudaya madhya koshta is of two types 1) due to the predominance of kapha dosha and 2) due to the samavastha of three doshas<sup>3</sup>

In krura koshta as the predominant dosha being vata, koshta is dominated mainly by ruksha and khara guans (qualities) of vata dosha. Hence krura koshta will be poorly secretive and absorptive. Mrudhu koshta is characterised by sara (laxative), drava (fluid property), snigdha (unctuousness), and laghu (lightness) guna of pitta dosha. Hence the koshta will be smooth, lubricated and slippery. Secretions will be more but it will be poor in absorption. In madhya koshta which is dominated by kapha dosha, there will be predominance of snigdha, guru (heaviness) and sthira (stable) guna. Koshta will have more lubrication but less slippery due to guru and sthira guna. This koshta will be secretive but movements will be less due to guru guna of kapha dosha. Madhya koshta which is due to the samavastha of three doshas, there will be optimum secretion and absorption.

Prior to the fixation of matra (dosage) in snehapana treatment, one should be well aware of koshta of the subject. In case of mridu Koshta, uttama matra (larger dose) sneha should not be administered, if so it causes agnimandya (decrease in digestive capacity), drava mala pravrtti (loose stools) etc. Also in krura koshta, madhyama (medium dose) or hrasva matra sneha (smaller dose) is not beneficial because it does not brings the required therapeutic effects. So while deciding dose, one should thoroughly investigate the koshta of the subject.

#### ACHASNEHAPANA

Accha Snehapana is the intake of large quantity of sneha without mixing with any other materials after the digestion of previous night meal especially for sodhana<sup>4</sup>. It is considered as the best snehana therapy. The aim of snehana therapy is to prepare the

body for sodhana karma i.e. to bring the doshas situated in the peripheral tissues to the koshta, so that they can be easily expelled out. This is achieved by vrddhi and vishyandana karma of snehana treatment.

### **ACTION OF SNEHA IN KOSHTA**

The administered sneha undergoes various digestive phases in koshta. The digestion and absorption of administered sneha in snehapana creates certain physiological changes in the body. These changes creates doshotklesa and prepare the body for the sodhana karma. Sneha fulfil this function through the property of sneha, vishyandana, mardava (softness) and kledakaraka. Action of sneha in koshta can be assessed through the following parameters:

- Changes in the movement of vayu in koshta or vatanulomatha
- Changes in agni (digestive fire)
- Consistency and snigdghata ( unctuousness) of purisha ( stool)
- Touch, lusture and texture of skin
- Physical and mental orientation like sada (weakness), klama (fatigue) etc.

### **Vatanulaomatha**

The normal gati of vata in koshta is anuloma gati (down ward direction). Dravya (drugs) which can mitigate vata by promoting its normal gati should have the cardinal property 'snigdghata' (unctuousness). By the snigdha guna sneha acts against its exact opposite quality i.e. rukshata (dryness). Due to clearance of way and clean channels vata can move in its own passage without any disturbance. Rukshata in koshta creates obstruction to the normal course of vata, and leads to pratiloma gati (opposite direction) of vatha. By proper snehana therapy, fecal matter becomes snigdghata and can be easily evacuated leading to proper gati of vata. Vatanulomana (making direction of vatha in right way) is the very first samyak snigdghata symptom appers in sequence after the snehana. If the quantity of sneha given will not be sufficient, vathanulomatha does not happen. Rukshata (dryness) in koshta remains as the same.

In krura koshta, there will be predominance of ruksha guna. Obstruction to normal course of vata occurs by hard fecal matter. Large quantity of sneha will be required to overcome the rukshata of koshta. Then only sneha can produce samyak snigdghata lakshana in krura koshta. In mrudhu koshta and madhya koshta due to the snigdghata guna of pitta and kapha dosha, amount of sneha required to overcome rukshata and to produce koshta snigdghata will be less as compared to krura koshta. That's why Acharya suggested 7 days of snehapana for krura koshta, 5 and 3 days for madhyama and mrudhu koshta respectively. The word vatanulomata not only means making the movement of vata in right directions, but it also emphasize all biological reactions, transportations and movements of gastrointestinal tract.

### **Changes in agni (digestive fire)**

Due to sneha intake, anulomana of apanavayu (comes under types of vatha) occurs, which results the good functioning of samanavayu and pachaka pitta (comes under type of vatha and pitha). Hence agni dipti (increase in digestive fire) will be observed during the period of snehapana. The grita (ghee) induces production and secretion of several digestive juices or enzymes necessary for excess lipid molecules to get digested thereby eliminate unwanted molecules away from the body. When fatty food reaches the duodenum, about 30 minutes after a meal the gall

bladder begins to empty. Cholecystokinin which is the potent stimulus for gall bladder contractions are secreted by the presence of fatty food that enter the duodenum. Bile helps to maintain a suitable pH of the duodenal contents and thus helps the action of all enzymes.

### **Changes pertaining to pureesha (stool)**

Due to the snigdha guna of sneha, pureesha becomes snigdghata and by drava (fluid property) and sara (laxative) guna (property), pureesha gets softened. pureesha snigdghata, (unctuousness of stool) asamhat varchas (loose stool) and adhasat snehadarshana (presence of fat in the stool) - these three symptoms clearly indicates that koshta snigdghata (unctuousness of GIT) has occurred. By administration of sneha in large quantity, the large intestine fails to absorb it completely, hence the excretion of sneha through anal route is observed. Adhasat snehadarshanam denotes that, sneha has reached upto majja dhatu (6<sup>th</sup> dathu or tissue) as told in the classics, "majja sneho akshi vit tvacham". So examination of pureesha (stool) is to be done regularly<sup>5</sup>.

The lipid molecules entering the intestinal tissues through bile, as well as through diffusion, make them too unctuous and smooth. There will be more production of water molecule during the final stage of lipid metabolism. Bile salts increase the peristaltic movements and gastric motility. It have laxative property. In krura, mrudhu, madhya koshta amount of secretion of bile juice may be different. In krura koshta more water is absorbed compared to mrudhu and madhya koshta and this will lead to dryness of faecal matter. Hence pureesha snigdghata (unctuousness of stool) will be different in each type of koshta.

### **Touch, texture and lustre of skin**

Sneha dravyas constitute snigdghata, mrudhu (softness), and sheeta (coldness) gunas, which enhances the same qualities in the body according to the samanya sidhantha. Thus produces gatra mardhavatha (softness of body) and twak snigdghata (unctuousness of skin). These lakshanas denote that sneha has reached upto mamsa - majja dhatu (comes under tissyes of the body).

The cell membrane of all animals contain Fatty acids. In high temperature, their bonding can rotate causing chain shortening and this make the cell membrane thinner enabling a rapid exchange of substances between the cells. In snehapana, the whole qualities of grihta will enter into each cells due to Samana Guna (equal qualities) of grita and cell membrane, making the body soft, smooth and unctuous to touch<sup>6</sup>.

### **Physical and mental symptoms**

Klama, glani (lassitude), gaurava (heaviness), jadya, angalaghava (lightness of body) are the symptoms produced by snehapana. Klama and glani develops due to guru guna of sneha. This symptom occurs due to the excess physical exertions of musculoskeletal cells as well as due to mental exertions during the period of snehapana therapy.

As the snehapana process goes on, samyak snigdghata lakshanas appears one by one. First of all, annavaha srotas becomes snigdghata, so that vatanulomana and agnidipti are observed in initial days. When purisha snigdghata and aamhata varcas appears, it indicates that snehana of annavaha and purishavaha srotas has achieved. When gatra mardhavata, twak snigdghata, and anga laghava appears, it indicates that snigdghata has reached upto dathu level. Snehodvega (aversion towards sneha) and adhasat sneha darsanam suggests that there is no need of further snehana.

## PHYSIOLOGY OF SNEHAPANA

For primary energy requirements, our body utilises carbohydrate metabolism, not fat metabolism. Our body has got two reservoirs for storage of nutrients to keep the cells of the body nourished when gut is empty. One the short term reservoir, which stores carbohydrates in the liver and the other, the long term reservoir which stores fats in the adipose tissues. Liver cells, under the influence of insulin convert the soluble glucose into insoluble glycogen and store it, till it is again converted into glucose by the influence of glucagon when the gut is empty. The carbohydrate reservoir of the liver is primarily meant for the Central nervous system. If the system is not replenished by the glucose, the CNS has to find out alternate energy sources from the products of long term reservoir of fats. This consists of triglycerides, stearic acid, oleic acid and palmitic acid. In the fasting phase, aided by the sympathetic system, glucose converted from stored up glycogen of liver provide energy for the CNS whereas energy demands for other cells are met with by fatty acids. By doing snehapana, body is being resorted to fat metabolism temporarily as the carbohydrate intake is too low during that period to which body is not adapted. Presumably, there are two sets of receptors, one in the brain at the blood brain barrier level sensitive to glucoprivation and another in the liver sensitive to both glucoprivation and lipoprivation that monitor the level of metabolic fuels. Through the snehapana body repairs the damaged pathways<sup>7</sup>.

The triglycerides are used in the body mainly to provide energy for different metabolic processes. In humans pancreatic lipase plays a major role in fat digestion. It act on triglycerides and hydrolyses the molecule to fatty acid and glycerol. Bile plays an important role in digestion and absorption of fat. Bile salts have two important function in intestinal tract. First, emulsification which helps to break the fat globules into minute sizes. Second, bile salts helps in the absorption of lipids from the intestinal tract by forming small physical complexes (micelles) with these lipids. Bile serves as a means of excretion of several important waste products from the blood. Consumption of large amount of fat during snehapana causes excess production of bile which is necessary for fat digestion. Bile excretes some metals like copper, Zn, Hg, and Pb. The precursor of bile salts is cholesterol. In humans, about 500mg of cholesterol are converted to bile acids and eliminated in bile every day. This route for elimination of excess cholesterol is important particularly in situations of massive cholesterol ingestion. Without the presence of bile salts in the intestinal tract up to 40% of the ingested fats are lost into the feces<sup>8</sup>. Cholecystokinin, which is secreted mainly by the presence of fatty food in the duodenum causes the contraction of gall bladder. Increased levels of CCK causes nausea, anxiety during the digestion of fat and decreases the desire to eat. As the snehaana procedure continues, CCK gets excessively secreted and which may be the reason for snehodvega (aversion towards sneha).

Hydrolysis of triglycerides into fatty acid and glycerol is the first step in fat metabolism. The glycerol is converted into glycerol phosphate which can merge with the stream of glycolysis or it can form glucose. Most of the fatty acids are metabolised by  $\beta$  oxidation in the cytosol. Fatty acids reaches the cytosol where it is converted into fatty acyl coA. Fatty acyl coA reacts with carnitine to form fattyacid- carnitine complex and enters the mitochondrial matrix. Inside the mitochondria carnitine is released and the fatty acid combines with another molecule of coA to become fatty acid coA. Carnitine recrosses the mitochondrial membrane and returns to carry again another molecule of fatty acid. Inside the mitochondrial matrix fatty acyl coA is converted to acetyl coA.

Acetyl coA can have many fates as it is involved in many biochemical reactions in the body. The active acetate molecule normally combines with oxaloacetic acid to form citric acid which enters the Krebs's cycle to yield ATP molecules. Some of the active acetate molecules are utilized for resynthesize of fatty acids. Some molecules are utilized to form ketone bodies which can cross the blood brain barrier and can be used for energy when glucose metabolism is severely deficient. Acetyl coA is involved in melatonin synthesis. Acetyl coA affects cell growth and mitosis<sup>9</sup>. Acetyl coA is also involved in the synthesis of a neurotransmitter called acetyl choline. Active acetate are also utilized for the synthesis of an amino acid glycine<sup>10</sup>.

According to Sushruta, the disease is produced due to dislodgement of vitiated doshas in the channels during their circulation in the body. During snehapana treatment qualities of gritha reaches into each cells of the body and the toxins from the cells diffuses back into the gritha medium through active and passive transportation. Swedana karma increases the exchange process between the cells. Sneha reaches to srotas (micro channels or nanochannels) and act as a solvent to remove the obstruction by dissolving those vitiated doshas in it, resulting in the removal of srotorodha (blockage in channels), which is one of the important step in samprapti vighatana (reversal of pathogenesis). By the combined effect of snehana and swedana, doshas will come to the koshta by anupravana bhava and after that they will be expelled out through nearest route by proper sodhana karma.

## CONCLUSION

Koshta functions as the main route for sodhana therapy. Action of sneha differs in each type of koshta. Hence duration to achieve samyak snigdha differs according to the type of koshta. The action of sneha in different koshta can be understood on the basis of samyak snigdha lakshanas. For mrudhu koshta snehapana treatment requires short duration and for krura koshta it takes long duration to achieve samyak snigdha. Appearance of sneha jeeryamana lakshana (symptoms appeared during the process of digestion) and jeerna lakshna (symptoms appeared after the digestion of sneha) will be different according to the digestion and absorption of sneha in koshta. Hence koshta should be given prime consideration during snehapana treatment because it is being the platform for the action of sneha. Doshas are present throughout the body. Sneha, by its sukshma guna and kledana karma, bring the doshas to koshta from sakkas. Kledana (moistness or wetness) karma of sneha acts as a solvent of the morbid doshas, by which the fat soluble impurities in the body will be eliminated. Hence the knowledge of digestion and absorption of sneha dravya is very important while doing snehana procedure.

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