A Critical Review on the Concept of Avapeedaka Snehapana, a Special Mode of Lipid Administration

P. B. Kadambari, Prasanth Dharmarajan, MD(Ayur), PhD, C. K. Prathibha, MD(Ayur), and P. V. Anandaraman, MD(Ayur), PhD

Abstract

Avapeedaka Snehapana is a unique and special method of internal administration of Sneha dravya (unctuous medicine) mentioned in the classical ayurveda texts. It is mainly indicated in mutravegarodha janya vikara (diseases due to the suppression of urge of micturition). Because of the lack of adequate review and analysis, this method of administration of snehapana (internal administration of lipid) is losing its significance from the practices and the concept remains unexplored. The reasons for not being practiced like other snehana (oleation therapy) procedures are because of the less understanding of the concept of administration, scattered and minimal textual references. Through this review, we intend to have a detailed analysis on the concept of avapeedaka snehapana mentioned in the Brihatrayees (Caraka Samhita, Sushruta Samhita, and Ashtanga Hridaya—the 3 main texts of ayurveda) with its possible practical methods of administration. The role of ghrita (ghee) in inducing the ketogenesis is also analyzed. Being a ketogenic diet, the benefits of ghrita are interpreted. These efforts may help bring down avapeedaka snehapana into the mainstream of practice.

Keywords

avapeedaka snehapana, abhyantara snehana, ketogenic diet, ayurveda, panchakarma

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Sneha (lipid) is the essence of an individual and his or her life. Sneha (oleation) has a vital role in ayurveda treatments in both preventive and curative aspect. It can be broadly divided into bhaaya sneha (external oleation) and abhyantara sneha (internal oleation). Snehapana (internal administration of lipid) comes under abhyantara snehana and is the internal administration of sneha dravya (lipid). Sneha dravya can be taila (oil), ghrita (ghee), majja (bone marrow), and vasa (muscle fat) individually or in combination. Snehapana is the foremost treatment to be done prior to sodhana (purificatory procedure) and is one among purvakarma (prepurificatory procedure). On the basis of therapeutics, snehapana can be classified based on their action as brhma (nourishing), samana (pacifying), and sodhana (purifying).

Avapeedaka Snehapana

Avapeedaka snehapana is a special pattern of oral administration of sneha. Here Sneha is administered in 2 kala (period) at a stretch, that is, pragbhakta (before food) and in jeernanta avastha (after the digestion of food) in hrusva matra (minimal dose) and uttama matra (maximal dose) respectively. Uttama matra and Hrusva matra are the quantities of sneha that digest in a period of 24 hours and 6 hours, respectively. The word Avapeedaka implies the meaning of either peedana (pushing down) or peedana of ahara (food).

Avapeedaka snehapana is considered as pittanilamayagna (pacifies pitta humor and vata humor). It has a special affinity toward bladder, thighs, and low back. It is also vrishya (aphrodisiac in action). In the context of Avapeedaka snehapana, Ayurveda texts mention ghrita as the better choice to reduce...
vatakopa (aggravation of vata) rather than taila even though taila (sesame oil) is the best vata shamaka (pacifies vata) Sneh dravya. Taila is not advisable in this condition because of its baddhavitt and alpamutra swabavā (property to obstruct feces and scanty urination). Hence, ghrita is the drug/sneha of choice used in this pattern of snehapana even though various types of sneha dravya are mentioned for internal administration.

### Indications

**Avapeedaka snehapana** is indicated in specific conditions like

- **mutra vegavarodha janyavikara chikitsa** (management of diseases due to the suppression of micturition reflex)
- **mutra udavarta chikitsa** (management of the obstruction of urine)
- **adhonabhigatavata chikitsa** (neurological conditions below the umbilicus)
- **arshachikitsa** (management of hemorrhoids).

In mutra vegavarodha janyavikara and mutravaha srotodushhti (vitiation of channels of urine), we can find the apana vayu (1 among the 5 types of vata humor) vaigunya (abnormality). Avapeedaka snehapana brings kledana (to bring of lubrication) to the mutravahasrotas (channels of urine) and anulomana (appropriate direction, generally downwards) of apana vata.

In adhonabhigata vata, avapeedaka snehapana is administered as pragbhakta, that is, the food has to be taken after consuming the ghrita.

In arshachikitsa, avapeedaka snehapana is administered as a last resort. In rakta arsha, (bleeding hemorrhoids), when the bleeding does not stop even after conservative management, ghee with mamsa rasa (meat soup) is advised, which is a type of bhrumhana snehapana and is a santarpanachikitsa (nourishing treatment).

### The Possible Methods of Administration of Avapeedaka Snehapana

The detailed study of the concept has drawn the following ways of administration

#### Method 1

By early evening, sneha is given in hrusva matra and the food is administered after a while. Let the patient sip hot water till he or she sleeps. The next morning, after ascertaining the jeernahara lakshana (status of digestion of the food), uttama matra is calculated. During sooryodayakala (sunrise) and before the feeling of hunger uttama matra, sneha is administered. Snehapana acharika vidhi (the diets and regimens to be followed during and after the snehana) is advised to follow during the period of snehapana. Rice gruel can be consumed whenever the patient feels hunger till the procedure ends.

The dose is calculated based on the time taken for digestion of ghee.

#### Method 2

During sunrise, Snehapana is administered in hrusva matra and satmya ahara (compatible food, preferably rice gruel) is given after 30 to 45 minutes. The time of administration is significant as it is the ideal time for utkleshana (secretory). After attaining the jeernahara lakshana and when hunger is felt, uttama matra is calculated and administered. Snehapana acharika vidhi is advised to follow during this period. Rice gruel can be consumed when the patient feels hunger.

#### Method 3

**Hrusva matra:** If the condition is not severe, in avarasatwa (minimal mental capacity) or alpabala (minimal physical strength) patients, we can go for hrusva matra in pragbhakta, that is, after sooryodaya kala, snehapana is administered. Rice gruel is advised as food when the patient feels hunger. This prayoga (method) can be continued every day till vyadhī samana (pacification of disease).

#### Method 4

**Uttama matra:** If you know the agnibala (digestive strength) of the patient, directly uttama matra can be administered, that is, during sunrise snehapana is administered and the patient is advised to sip hot water frequently. When the person is hungry, rice gruel is given as food. This is repeated till he or she attains samyak snigdha lakshana (symptoms of adequate unctuousness).

### Discussion

**Pragbhaktha** is 1 among the 10 aushadhakala (ideal time for the administration of medicine). It is also named as annadou, which means the medicines administered before food. Generally, indicated in the apana vata vijnunatha jeernathikha prayoga is also called as annannaprayoga (without consuming food).

Even though there is an opinion of administering avapeedaka snehapana in 2 ways, either in uttama matra or hrusva matra, the peedana of dosha and ahara takes place in both. In method 3, the quantity of sneha administered is hrusva matra and looks similar to samana snehapana, whereas in method 4, uttama matra is administered and it behaves as sodhana snehapana.

The term yojanadwayam is mentioned in the context of avapeedaka snehapana and commentators gives an explanation to this term as 2 patterns of snehapana either administering the hrusva matra and uttama matra together or separately. But avapeedaka is called so only when both uttama matra and hrusva matra are administered together as in methods 1 and 2.

In all the indications mentioned above, vilomagati (movement in wrong directions) of apana vata (a type of vata) takes place and acts as a causative factor. Correcting the path of
Apana vata is done by the administration of sneha, that is, peedana (compression) of dosha by sneha. This may be the reason behind a specific name been coined as Avapeedaka.

Mutravegarodha janyavikara\(^{14}\) includes angabhanga (body pain), asmari (urinary calculi), vastivedana (pain in urinary bladder), medravedana (pain in penis), vankshanaovedana (pain in the inguinal region). In all these conditions, diuresis is the line of treatment and frequent micturition is important as it pacifies the condition.

Lipids are hydrophobic in nature. Almost all the lipids are digested in the small intestine because of the availability of bile salts, pancreatic lipolytic enzymes, and intestinal lipase. After absorption from intestines, lipids are transported to the liver where they are converted into triglycerides. From the liver, it is then hydrolyzed and converted into glycerol and fatty acids, which moves to the target tissues. Glycerol enters the glycolytic pathway for glucose breakdown and it is then used in the form of energy. Whereas the fatty acid is degraded (\(\beta\) oxidation) into acetyl CoA in the mitochondria, which enters the Krebs cycle to form \(\text{CO}_2 + \text{H}_2\text{O} + \text{ATP}\) (adenosine triphosphate). The acetyl CoA at the liver condenses to form aceto-acetyl CoA, which produces aceto-acetic acid. The Aceto-acetic acid is reduced to form \(\beta\)-hydroxybutyric acid, which after decarboxylation forms acetones. Aceto-acetic acid, acetone, and \(\beta\)-hydroxybutyric acid are together called ketone bodies. The processes of formation of ketone bodies are called as ketogenesis.\(^{15}\) The end-products of the ketogenesis process are the ATP molecules and the \(\text{H}^+\) ions. Thus, as the ketogenesis increases, the water excretion also increases, which will help in the treatment of the diseases.

**Ketogenic Diet**

The ketogenic diet is a high-fat, adequate protein, low carbohydrate diet that in medicine is used primarily to treat disease.\(^{16}\) The diet forces the body to burn fats rather than carbohydrates and increases ketogenesis in the body.\(^{17}\) Ghee induces ketogenesis in the body by breaking down of the fatty acid.

The ghee is administered as avapeedaka snehapana and rakta shali (brown rice) is used as diet in the form of yavagu (rice gruel). Ghee contains almost 99.5 g of fat with minimal amount of protein and zero carbohydrate per 100 g while the gruel of brown rice contains 0.9 g of fat, 2.6 g of protein, and 23 g of carbohydrate. Thus, avapeedaka snehapana shows similar combination as a ketogenic diet.

Normally, ketone bodies are used without being accumulated in the body by many tissues with the production of carbon dioxide and water. The human brain can use an appreciable amount of ketones bodies during prolonged starvation. Diabetic mellitus, starvation, high-fat or low-carbohydrate diet, and muscular exercises are the few conditions leading to ketosis.

On low-carbohydrate diet, the energy requirement should be supplied from the oxidation of fat. For this reason, fats are mobilized from the depots and brought to the liver, whose glycogen content is low and gets loaded with fats. Consequently, fat oxidation takes place at a heightened rate and more ketones are formed. They come out of the cell and enter the bloodstream and finally eliminated through urine.

In ketosis, the ketones are formed at a faster rate than can be used. When blood level of ketone bodies rises above the renal threshold, they are excreted in the urine, which is known as ketonuria. During ketosis, there is a high amount of acids and acidity in the urine, so it is associated with acidosis in the body. During the maintenance of the acid-base balance, \(\text{Na}^+\) ions are lost from the plasma and body fluids and consequently, there is a loss of body fluids resulting in the dehydration. Several hormonal changes take place to promote rapid fatty acid mobilization in the adipose tissue. Pancreatic secretion of insulin is decreased because of the absence of the carbohydrate; this not only reduces the rate of glucose utilization by the tissue but also decreases the fat storage, which favors the fat metabolism. Epinephrine and norepinephrine, glucocorticoids growth hormones, and thyroid hormones also have an influence on the fat metabolism.\(^{18}\)

So, it may be understood that avapeedaka snehapana can also mobilize the fat in the body. Almost 50\% fat depositions in the body are found in the perirenal tissues, mesenteries, and omentum. These areas are present in the adhonabhi pradesha (below the umbilicus), which is one among the indications of avapeedaka snehapana.

The ketogenic diet, as the name implies, also provides increased blood ketones to support the energy needs of normal tissues.

*Apana vata* is responsible for the proper functioning of micturition, defecation, semen ejaculation, menstrual blood, and childbirth.\(^{19}\) As *apana vayu* is hampered in the conditions like asmari (urinary calculi), udavarta (upward movement of vata), and mutrakrichra (dysuria), Avapeedaka snehapana can be clinically administered. Ketogenic food can increase the urine output and thereby may have an influence on mutra vevagarodha janyayikara and mutravaha srotodushti.

Ketogenic diet shows neuroprotective effects and studies show its efficacy for a number of neurological disorders, including epilepsy, Alzheimer’s disease, Parkinson’s disease, sleep disorders, headache, traumatic brain injury, amyotrophic lateral sclerosis, pain, and autism.\(^{20}\) Thus it is understood that avapeedaka snehapana is an advisable method of treatment for neurological disorders.

As we do not find any references regarding the number of days of snehapana to be administered, it is practically administered till the attainment of samyak snigdha lakshana. During snehapana, the diets and regimens mentioned for snehavidhi\(^{21}\) should be followed. Before initiating the treatment, the physician should assess the koshtha (bowel) of the patient to fix the dose. Depending on the condition of the patient, sneha dravya is selected. The patient should drink lukewarm water frequently, but in less quantity, and take kanji (porridge) only when he or she feel hungry. It is advisable to prepare porridge with brown rice, which has adequate amount of protein. Brown rice cooked in the green gram broth can also be consumed. Those who are incompatible to rice, cooked plain oats can be taken. Patient must avoid day sleep, exercises, watching television, using computers, mobile phones, exposure...
to an air conditioner, coolers, journey/rides, reading for a long duration, and other purificatory procedures. Treatment has to be continued till the samyak snigdha lakshana\textsuperscript{22} is observed.

**Conclusion**

Avapeedaka snehapana, a popular therapy practically adopted in mutra vegavarodha janya vikara, is also indicated in arsha, adhonabhihigata vata vikara, and mutra udavartachikitsa. Most of the individuals around us have one or other issue related to apana vayu due to the suppression of natural urges as a part of their unhealthy life styles. Avapeedaka snehapana can be practiced in conditions where apana vayu vigunatha is seen considering the agni bala of the patient.

Till date, there are no studies conducted on the dose fixation of avapeedaka snehapana; hence it is a big challenge to determine an optimum dosage. Avapeedaka snehapana is relatively untouched and requires further clinical trials and discussions to understand its wide range of utility.

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**ORCID ID**

P. B. Kadambari \(\text{http://orcid.org/0000-0002-6943-9447}\)

P. V. Anandaraman, MD(Ayur), PhD \(\text{http://orcid.org/0000-0003-0689-5039}\)

**Ethical Approval**

As this is a review article, ethical approval is not required.

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