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Dhamanis-The Carriers of Nutrient Fluid

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ABSTRACT

Dhamanis are the channels meant for transportation of nutrient fluid to different parts of the body, for the purpose of nourishment and growth. In Sushruta's view, they are 24 in number and originate from *nabhi*. of them, the *adhogadhamanis* are principle in carrying the nutrient fluid to different parts of the body. Through this article, an effort is made to clarify the mode of transport and nourishment to different tissues, keeping the three *nyayas* (maxims) in view, viz., *kedarakulyanyaya*, *upasnehana* and *abhinavajalalavasy and anyaya*. This facilitates an easier understanding of the actual process of transport of nutrition, which in turn will make the concept useable in day to day practice, in the effort of correcting the *dhatuvaishmya*.

KEYWORDS

Ahara rasa, Dhamani, Dhatuapyayana, Kedarikulyanyaya, Upasnehana



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INTRODUCTION

Dhamanis are the channels that carry nutrient fluid to the entire body. But, how exactly the nutrient fluid is transported through these structures, for nourishment of tissues, is unclear, as the literature concerned to these aspects is scattered and found in different contexts in the classics. An effort is made towards clarifying the role of *adhogadhamani* in the process of nourishment, to rest of the parts and provide some clarity into¹. The mechanism by which, the **upper** parts of the body are nourished by a **down** coursing *dhamani* (*adhoga*)². The mechanism through which, the transported nutrition makes its way into the tissues for further steps of nourishment (*apyayana* of *dhatu*).

REVIEW OF LITERATURE

Dhamani is defined as,

*Dhmnaanatanilapooranaatdhamanyaha*¹.

*Dhmanaatdhamanyaha*².

Those structures, that perform *dhmaanakarma* and facilitate the entry or filling of *anila*, are called as the *dhamanis*. These *dhamanis* are 24 in number and are *nabhiprabhava* (originate in *nabhi*)³. They are attached to the *nabhi* and surround it, like spokes of a wheel⁴. Out of the 24 *dhamanis*, ten are *urdhwaga*, ten are

aadhoga and four *tiryakga*⁵. (susha 9/4, 384).

URDHWAGA DHAMANIS⁶

The ten up coursing *dhamanis* (*urdhwaga*) play a part in the functions such as *shabda*, *rasa*, *gandha*, *roopa*, inspiration, expiration, sighing, yawning, sneezing, laughter, speech and weeping and also maintain the integrity of the body. These *dhamanis*, after reaching the *hrudaya* (heart), ramify themselves into three branches, thus making thirty ramifications in all. The ten *urdhwaga* (up coursing *dhamanis*), mainly sustain and maintain the areas above the *nabhi*.

ADHOGA DHAMANIS⁷

The *adhoga* (down coursing) *dhamanis*, form the channels, for the downward movement of *vayu*, *pureesha*, *mootra*, *shukra* and *artava*. These *dhamanis*, reaching down to *pittashaya*, separate the essence produced out of the food, through the action of *agni*, located nearby and carry it to the remotest parts of the body for nourishment. Thus, they indirectly serve to supply the *hrudaya* (heart) with its share of *rasa*. Moreover, they tend to separate the waste portion from the fully transformed *rasa*. Each of the down coursing *dhamanis*, is found to ramify further into three branches at a place midway between the *amashaya* and *pakwasaya*. Thus they



become thirty in all, which carry out respective functions assigned to them. The *adhoga dhamanis* mainly sustain and maintain the region below the *nabhi*.

TIRYAKGA DHAMANIS⁸

The four lateral coursing *dhamanis*, gradually ramify themselves into hundreds and thousands of branches. They spread all over the body in the form of a network. Their exterior orifices are attached to the roots of *lomakoopa* through which they convey *sweda* and *rasa*, thus supplying the body, both internally and externally, with the nutrients.

DISCUSSION

The nutrient material formed in *pittashaya*, needs to reach every part of the body for the purpose of nourishment and the structures that carry out this function are the *dhamanis* numbering 24. They are, *urdhwaga*, *adhoga* and *tiryakadhamanis*. The upper part of the body is nourished by *urdhwaga*, lower by *adhoga* and *tiryak* parts (horizontal) by *tiryakdhamanis*.

The *dhamanis* are said to be *nabhiprabhava*³. *Prabhava* means the *moolasthan* (the site of origin). The site of origin of 24 *dhamanis* is *nabhi*. Hence, *nabhi* although predominantly an *agnisthana*, is also a *pranasthan*¹¹. The *dhamanis* are attached to

nabhi like the *ara* of *chakra*⁴ (spokes of a wheel) and form a closed network that facilitate the conveyance of the nutrient fluid to the nooks and corners of the body.

DHAMANI – AN ABODE OF AHARA RASA.

Nabhi is a *pittasthan*¹⁰, where *pittashaya* is located in its proximity, in which the *ahara rasa* (nutrient fluid) is formed. Once the *ahararasa* (nutrient fluid) is formed in *pittashaya*, it is carried to all parts of the body for the purpose of nourishment by *adhogadhamanis*, through the medium of *urdhwaga* and *tiryakadhamnis*. The nutrient fluid is conveyed to *rasasthan* (*rasa dhatu* and *hrudaya*) through the same *adhogadhamanis*⁷. Therefore, *adhoga dhamanis* are the ones that impart nutrient fluid to,

1. *Urdhwaga* and *tiryakdhamnis* that nourish upper and *tiryak* parts.
2. *Rasa dhatu*, for the nourishment of seven *dhatu*s.

With this, one other fact could be established is that, the 24 *dhamanis* are the site of *ahara rasa* (nutrient fluid). This strengthens the opinion of Chakrapani that, the location of *ahara rasa* is *dhamani*. This paves way for a new method of interpretation of the concept of *dhamanipratichaya*. *Dhamanipratichaya*



can be seen as the accumulation of *apakwaahara rasa* in the 24 *dhamanis*, which are the structures active at the level of *koshta* and *rasa dhatu*, not essentially *medas* as it is being believed. Because, beyond *rasa dhatu*, the structures active in the transportation are not these 24 *dhamanis*, but are the *srotases*, where metabolism and transportation happen. Treatment planned towards the correction of *ahara rasa* at the level of *koshta-rasadhatu- dhamani*, will prove beneficial in treating the *dhamanipratichaya*.

PROCESS OF DHATU APYAYANA (NOURISHMENT OF DHATUS)-

The phenomenon by which the nutrient is conveyed from *dhamani* to whole body is similar to *kedarakulyanyaya*¹². That is, the nutrient fluid reaches every part of the body through the *kulyas* (canals/ *dhamanis*). This only explains the transportation part of the nutrition process. It is, like the river banks that are dampened by the river, the areas of the body are kept nourished, by the nutrient fluid present inside the *dhamanis* and this process is called as *upasnehana*¹³. *Upa* and *snehana* are two words, *upa* is *samipa* (proximity) and *snehana* is nourishment¹⁴. Arunadatta, further clarified that, when *ahara rasa* reaches the *rasa dhatu*, a phenomenon similar to

*abhinavajalavakumbhasyandanyaya*¹⁵ happens. That is, just as the water inside a new earthen pot, diffuses to the exterior, so does the *ahara rasa* (the source of nutrition), imparts the required nutrient part to the *dhatu*s. This process is called *syandana* (*sravana*). This also provides clarification to the question raised by Dalhana himself, in his commentary on *adhogadhamanis*, as to how these *adhogadhamanis*, which have movement only downwards can possibly carry/give the nutrient fluid to *rasa sthanas* (*rasa* and *hrudaya*), which are placed in upper body. Dalhana himself has clarified that, the *rasasthana*, does not mean *hrudaya avayava*, but whole area in the proximity of *hrudaya*. The transport of nutrition through *adhoga dhamanis* to *rasa sthana*, is by the process of *syandana* and *upasnehana*. After *rasa dhatu* is formed, the *dhatuparampara* continues.

The *ahara rasa* (nutrient fluid) through *urdhwagadhamanis*, mainly nourish the *koshta* and related components. Nutrient fluid in *tiryakdhamanis*, principally nourish the *rasa* and *sweda*. The *adhogadhamanis*, nourish the *adhakoshta* (lower part of *koshta*) and carry *ahara rasa* towards the *dhatu* for *dhatuparinamana*. To be more precise, *adhogadhamanis* are the structures,



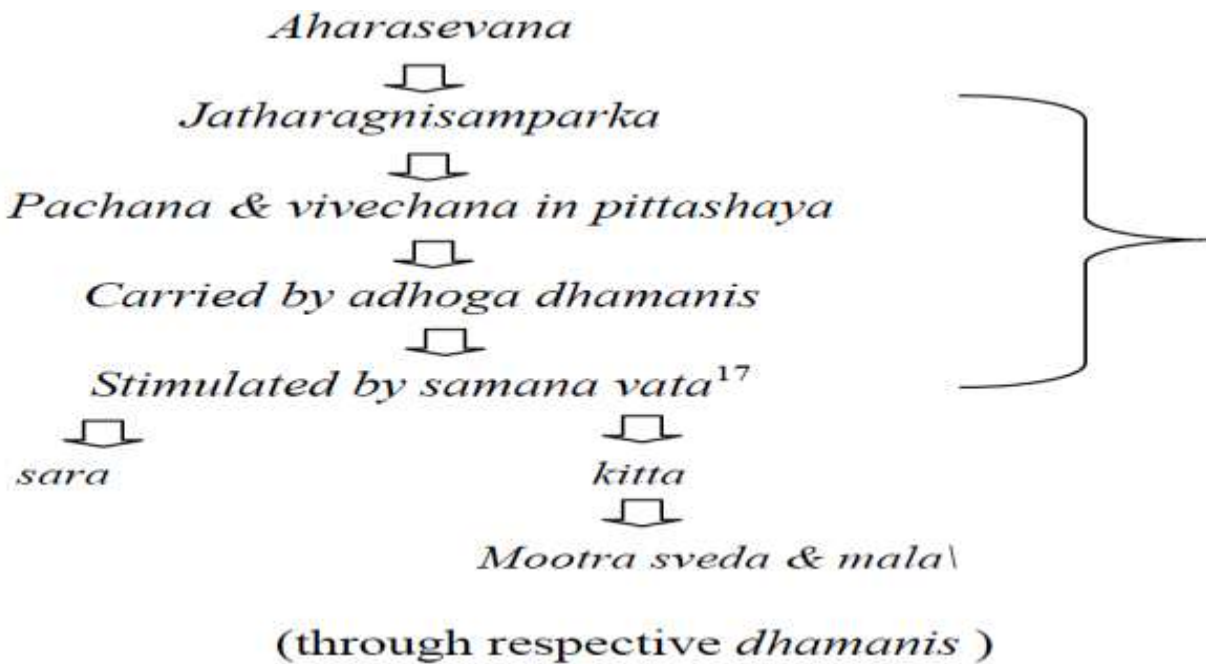
those play an important role in the nourishment of *dhatu* (tissues).

Pakwashaya is the location of *adhogadhamni*¹⁶. *Basti* karma, believed to be the *ardhachikitsa*, might be very effective because of the fact that, the *adhogadhamanis*, which are the principle

transporters of nutrition to *dhatu*, originate in *pakwashaya*, the organ to which medicines are introduced as through *basti*. As the nutrition is served to *rasa dhatu*, the *veerya* (potency) of medicines are made available to the *rasa dhatu* directly by-passing the *jatharagnipaka*.

DHAMANI AND DHATU PARINAMANA

Illustration1 –Showing the role of *adhogadhamani* in *ahara & dhatuparinamana*.



1. To *urdhwagadhamnis* for *urdhwadehaposhana*.
2. To *tiryakga* for *tiryakgata* structures.
3. To *dhatu – rasa dhatu* and *its sthana* for *dhatuparinamana*.
(by *kedarkulya* and *abhinavakumbhajalalavasyandanyaya*)

By *kedarakulyanyaya*, the nutrient material nourishes the whole body, by the process of *upasnehana*, through *urdhwaga*, *adhoga* and *tiryakdhamanis*.

The same process of *syandana* (*abhinavakumbhajalalavvasyandanyaya*), *ahara rasa* comes in contact with *rasa*



adidhatu and *dhatuapyayana* takes place. Further, the nourishment of *dhatu* is done by the respective *dhatwagni*.

DHAMANI -AS A SYNONYM OF SROTAS

It has been mentioned earlier, that 24 *dhamanis*, are active at the level of *koshta* and are the carriers of *ahara rasa*. *Dhamani* is defined as, that which performs *dhamana karma*. And that which facilitates *anilapoorti* and that which does *sravana* is the *srotas*. Sushruta, though has clarified that, *dhamani* and *srotas* are two different entities, in many contexts, the terms *dhamani* and *srotas* are used interchangeably. For example – *rasa*

vahinyahadhamnyaha, *raktavahinyahadhamanyaha*¹⁸. Therefore, the structure is named based on the function it performs. In this context, the term *dhamani* (a synonym of *srotas*) refers to structures that, which carry or convey the *parinata dhatu* (converted *dhatu*) and is not the place where conversion takes place (as per Charaka's definition), as the process of conversion of the *dhatu* and its transport is the function of the whole *srotas*. Here, the term *dhamani*, refers to the structures that are meant to carry *dhatu*s. The context in which it is used, could be made use of, to understand its function.

Table1 Difference between *dhamani* and *srotas*

	<i>Dhamani</i>	<i>Srotas</i>
Definition	<i>Dhmana, anilapoorana.</i>	<i>Sravanat.</i>
Function	Transportation.	Transformation and transportation.
Number	24	13/11/Innumerable.
Location	Superficial.	Deep.
Area of action	<i>Koshta.</i>	<i>Saptadhatu</i> mainly (except for <i>anna –mootravahasrotases</i> , which are closely linked to <i>koshta</i>)

CONCLUSION

Dhamanis are the structures meant for transporting any bodily component, essence or waste. The *adhogadhamani* is principally involved in transporting the *ahara rasa* formed in *pittashaya* to the different parts of the body, by the medium of *urdhwa* and *tiryakdhamanis*. It also carries *ahara rasa* to lower body and *rasa sthana*, for

nourishment of *dhatu*s. Area of action of 24 *dhamanis*, is at the level of *koshta* and the materials they carry is *ahara rasa*. Therefore, *dhamanipratichaya* should be understood on similar lines.



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