

PHARMACEUTICAL STUDY OF TIKTA GHRITA CONSTITUTING
VATA SHODHANA GANA OF VAGBHATA

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ABSTRACT :

Ayurveda explains health as equilibrium of the Dhatus "*Dhatu Samyam Arogata*". Among the *Dhatus*, *Asthi* (bones and its appendages) performs the function of *Shareera Dharana* (holding the body). Any derangement in *Asthi* results in disease. *Asthi Kshaya* (loss of bony tissues) is a condition in which there is *Kshaya* of the *Asthi Dhatus*. Number of diseases pertains to *asthi dhatu kshaya* like frangibility of joints and articulations, *katighraha* (lumbar spondylosis), osteoporosis etc. According to the principle of *Ashrayaashrayee Bhava* (theory of correlation between *dosha* and its seat), when *Vata* increases *Asthi* decreases because, both are inversely proportional to each other. According to *Acharya Charaka* and *Vagbhata*, *Asthi Dhatus Dushti* should be corrected by using *Tikta Dravya Ghrita* and *Ksheera* (ghrita and milk prepared of Bitter taste drugs). *Acharya Vagbhata* has mentioned *Vata Shodhana dravyas* (drugs pacifying *vata*) in *sutra sthana*. Here an attempt is made to prepare *Tikta ghrita* by selecting *tikta rasa* drugs from the *Vatashodhana ganas* of *Acharya Vagbhata-Bhadradarvadi, Virataradi, Vidaryadi*.

Key words: *Asthi dhatu, asthi kshaya, Tikta Dravya Ghrita, Bhadradarvadi gana, Virataradi gana, Vidaryadi gana.*

INTRODUCTION: Today is the era of modernization and fast life. Faulty dietary habits and irregular life styles are responsible for early degenerative changes in body tissue and play a vital role in the manifestation of such degenerative disorder like osteoporosis and Lumbar spondylosis. *Ayurveda* considers *Vata* as *pradhana dosha* among all three *doshas* (leading among all three humours). According to theory of *Ashrayaashrayee Bhava asthi dhatu*¹ is seat of *vata dosha*. Any factor leading to *vata vridhhi* leads to *asthi dhatu kshaya* ultimately leading to various degenerative disorders sooner or later depending on the intensity of *vata* vitiation. *Acharya Charaka* has mentioned administration of *Tikta Dravya Ghrita* and *Ksheera* in *Asthi Dhatus Dushti*² similar description is also given by *Acharya*

*Vagbhata*³. *Acharya Vagbhata* has mentioned *Vata Shodhana gana* in *sutra sthana*, here *Tikta ghrita* was prepared by selecting *Tikta rasa dravyas* from *Vata shodhana gana* of *Vagbhata* i.e.- *Bhadradarvadi, Virataradi, Vidaryadi ganas*⁴. It is one of the rare combination and rare method normally *tikta ghrita* is prepared by using five *tikta dravyas* but here *ghrita* is prepared by selecting 25 drugs of *Vata shodhana ganas* of *Acharya Vagbhata*. The drugs selected for making *ghrita* are *Bhadradaru* (*Cedrus deodara*), *Tagara* (*Valeriana wallichii*), *Kustha* (*Saussurea lappa*), *Bilwa* (*Aegle marmelos*), *Agnimamtha* (*Stereospermum suaveolens*), *Patala* (*Clerodendrum phlomidis*), *Gambhari* (*Gmelina arborea*), *Syonaka* (*Oroxylum indicum*), *Bhrhati* (*Solanum indicum*), *Kantakari* (*Solanum*

surattense), *Salparni* (*Desmodium gangeticum*), *Prshnaparni* (*Uraria picta*), *Meshashrungi* (*Gymnema sylvestre*), *Mudgaparni* (*Phaseolus trilobus*), *Mashaparni* (*Teramnus labialis*), *Kapikacchu* (*Mucuna prurita*), *Sariva* (*Hemidesmus indicus*), *Punarnava* (*Boerhavia diffusa*), *Veerataru* (*Dichrostachys cinerea*), *Vasa* (*Adhatoda vasica*), *Ashmabherda* (*Bergenia ligulata*), *Sukshmapatrika* (*Sesbania sesban*),

Sahacara (*Barleria prionitis*), *Kasa* (*Saccharum spontaneum*), *Bandaka* (*Dendrophthoe falcatum*).

MATERIAL AND METHODS: *Tikta ghrita* was prepared by taking drugs having *tikta rasa* from *Vatashodhana ganas* of acharya *Vagbhata-Bhadradarvadi*, *Virataradi*, *Vidaryadi*. The pharmaceutical study was carried in following stages.

Table No. 1: Showing the list of drugs, parts used and quantity:

S. No.	Name of Drug	Parts used	Quantity in (Kalka)	Quantity in (Kwatha)
1.	<i>Bhadradaru</i> (<i>Cedrus deodara</i>)	Kandasara	24 gm	400gm
2.	<i>Tagara</i> (<i>Valeriana wallichii</i>)	Moola	24 gm	400gm
3.	<i>Kustha</i> (<i>Saussurea lappa</i>)	Moola	24 gm	400gm
4.	<i>Bilwa</i> (<i>Aegle marmelos</i>)	Mulatwaka	24 gm	400gm
5.	<i>Agnimamtha</i> (<i>Stereospermum suaveolens</i>)	Mulatwaka	24 gm	400gm
6.	<i>Patala</i> (<i>Clerodendrum phlomidis</i>)	Mulatwaka	24 gm	400gm
7.	<i>Gambhari</i> (<i>Gmelina arborea</i>)	Moola	24 gm	400gm
8.	<i>Syonaka</i> (<i>Oroxylum indicum</i>)	Moola	24 gm	400gm
9.	<i>Bhrahati</i> (<i>Solanum indicum</i>)	Moola	24 gm	400gm
10.	<i>Kanṭakari</i> (<i>Solanum surattense</i>)	Panchanga	24 gm	400gm
11.	<i>Salparni</i> (<i>Desmodium gangeticum</i>)	Panchanga	24 gm	400gm
12.	<i>Prshnaparni</i> (<i>Uraria picta</i>)	Panchanga	24 gm	400gm
13.	<i>Meshashrungi</i> (<i>Gymnema sylvestre</i>)	Panchanga	24 gm	400gm
14.	<i>Mudgaparni</i> (<i>Phaseolus trilobus</i>)	Panchanga	24 gm	400gm
15.	<i>Mashaparni</i> (<i>Teramnus labialis</i>)	Panchanga	24 gm	400gm
16.	<i>Kapikacchu</i> (<i>Mucuna prurita</i>)	Beeja	24 gm	400gm
17.	<i>Sariva</i> (<i>Hemidesmus indicus</i>)	Moola	24 gm	400gm
18.	<i>Punarnava</i> (<i>Boerhavia diffusa</i>)	Panchanga	24 gm	400gm
19.	<i>Veerataru</i> (<i>Dichrostachys cinerea</i>)	Moola	24 gm	400gm
20.	<i>Vasa</i> (<i>Adhatoda vasica</i>)	Moola	24 gm	400gm
21.	<i>Ashmabherda</i> (<i>Bergenia ligulata</i>)	Moola	24 gm	400gm
22.	<i>Sukshmapatrika</i> (<i>Sesbania sesban</i>)	Moola	24 gm	400gm
23.	<i>Sahacara</i> (<i>Barleria prionitis</i>)	Panchanga	24 gm	400gm
24.	<i>Kasa</i> (<i>Saccharum spontaneum</i>)	Moola	24 gm	400gm
25.	<i>Bandaka</i> (<i>Dendrophthoe falcatum</i>)	Panchanga	24 gm	400gm

- Preparation of *kalka* (fine paste) of all 25 drugs- 600 gm. (24 gm each)
- Preparation of *Kwatha* (decoction) of drugs- 9.6 Litres (400gm of each and

total 9.6 Kg. of drugs) were taken and *kwatha* was prepared by adding 4 times water to it later reduced to 1/4)

3. Preparation of *ghrita* (cow's *ghrita*)-
2.4 kg.

Preparation of *Kalka*: *Kalka* of all 25 drugs was prepared by soaking the *churna* (coarse powder) of these drugs over night in water.

Preparation of *kwatha*⁵: Decoction of these drugs was prepared according to the reference of *Acharya Sarangadhara* i.e. 1 part of coarse powdered drugs is boiled with 4 parts of water over mild fire till the liquid is reduced to 1/4 of the original level, later subjected to filtration.

Preparation of *ghrita*⁶: *Sneha paaka* (preparation of medicated oil) was done by the general method of *ghrita paaka* i.e. by subjecting *sneha* to *paaka* by adding one part of *kalka* (paste of drug) to four parts of *sneha* (*ghrita*) and four times of decoction to that of the *sneha*. It was kept on mild fire until the accepted properties of *sneha paaka* are not obtained.

- First of all *ghrita* was poured in a broad mouthed iron vessel, gentle heat was provided to melt the *ghrita*. Once the *ghrita* was melted *kalka* in form of bolus was added slowly to the melted *ghrita*.
- After the addition of *kalka*, *kwatha* was added slowly to the *ghrita* and stirred continuously to avoid spillage of contents out of the vessel.
- After half hour of heating small bubbles started to appear indicating the heating of all the contents inside the vessel has initiated.
- Continuous stirring was done to avoid sticking of the contents to the vessel.
- After two hours of heating on *madhyama aagni* (medium flame) *kalka* started to take shape of *varthi* (wick like shape). *Sneha siddha pariksha* (test for proper preparation of medicated *ghrita*)

was done at regular intervals as mentioned in classics.

- Once the level of *kwatha* was reduced significantly flame was reduced to *mruduaagni* (mild flame) to avoid sticking of *kalka* to the bottom of the vessel. *Kalka* was taken in between the fingers and wick was made of it, it was pressed in between two fingers while doing so it did not yield any *sneha* and it was soft in consistency indicating *madhyama paka* (medium level of *paka*)⁷. Also the wick was subjected to *aagni pariksha* (flame test), the end of the wick was put on fire to notice any crackling sound was produced or not. While doing so there was no hissing or crackling sound heard indicating the *samyaka paaka* (complete stage) and no more moisture was left in the *sneha*.⁸

- Other symptoms of *sneha paaka* were also noticed such as disappearance of *phena* (froth, bubbles), pleasant smell indicating the incorporation of *kalka* properties in *ghrita*, change in colour, and slight change in taste of *ghrita* was also noticed. All these indicated that the ultimate stage of *paaka* has been attained.

- Vessel was taken out of the gas stove; *sneha* was filtered by double layered cloth after cooling it was kept in an air tight container.

OBSERVATION AND RESULTS:

- Colour of *ghrita* became yellow in colour after the *paaka*.
- *Kalka* was sticky initially when the process was started as the process got progressed sticky nature started to disappear and in final stage it was completely devoid of *sneha*.
- Wick test was done regularly to know the *paaka lakshanas*. *Kalka* was taken in between two fingers and *varthi*

was made of it. Flame test was important because any moisture left in *sneha* will lead to microbial growth and spoilage of medicine.

- Fine froth was seen throughout the process but when the *paaka* was about to

be attained froth started to disappear and finally in last froth totally disappeared.

- Smell, colour, and taste of *ghrita* changed. Little change in taste was noticed in final product due to the *tikta drvayas* taken for *sneha paaka*.

Table no. 1: Showing the weight of ingredients taken for the *paaka*:

S. No.	Name of the ingredients	Amount taken
1.	<i>Kalka</i>	600 gm
2.	<i>Ghrita</i>	2.4 kg
3.	<i>Kwatha</i>	9.6 L

Table no. 2: Showing the amount of *Tikra ghrita* obtained after *paaka*:

S. No.	Weight of <i>ghrita</i> before <i>paaka</i>	Weight of <i>ghrita</i> after <i>paaka</i>	Loss of weight	% age loss
1.	2.4 kg	2.3 kg	100 gm	4.1 %

Table no. 3: Showing Organoleptic properties of *Tikta ghrita*:

S. No.	Name of the test	Amount taken
1.	Touch	Smooth and sticky
2.	Colour	Yellow
3.	Taste	Little bitter
4.	Smell	Pleasant



Image no. 1: *Kalka* of drugs



Image no. 2: *Kwatha* preparation



Image no.3:Tikta Ghrita preparation

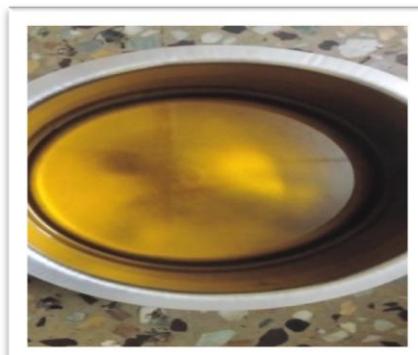


Image no. 4: Prepared *Tikta ghrita*

DISCUSSION: In this era of modernisation degenerative diseases are becoming common ailments now days. *Asthi dhatu* is the seat of *Vata dosha*, these two entities are inversely proportional to each other increase in *Vata* causes decrease of *asthi dhatu*. This loss of bony tissue manifests in many forms in body like *Katigraha* (lumbar spondylosis), osteoporosis, recurrent fractures etc. *Acharya Charaka* and *Vagbhata* mentioned use of *Tikta ghrita* and *ksheera* for all *asthi* related disorders. Although *Tikta rasa* is considered as *Vata kopaka* (causing vitiation of *Vata*) so according to this concept *Tikta rasa* should cause *Vata vriddhi* and *asthi dhatu kshaya*. But the commentator of *Aṣṭanga Hṛdayam*, *Aruṇadutta* in his commentary *Sarvanga Sundara* mentioned that *Tikta Dravya* aggravates the *Vata* which causes *Asthi Kshaya* but when *Tikta rasa* is incorporated with *Ghrita* and *ksheera* which have *snigdha guna* (unctuous) the *Shoshana karma* (dryness) of *Tikta rasa* causes *Kharatva* (roughness) which causes *Asthi dhatu vriddhi* because of dominance of *prithvi mahabhuta* (earthy element) in it while on other hand *ghrita* and *ksheera* having *snigdha guna* causes *Vata samana* counteracting its *ruksha guna*. So keeping this point in consideration *Tikta ghrita* was prepared by choosing *Tikta rasa dravays* from *Vata Shodhan gana* of *acharya Vagbhata*.

Preparation of *ghrita* was done by adopting method of *Sarangadhara Samhita* by taking 1:4:16 ratios of *Kalka*, *ghrita*, and *kwatha*. It was subjected to boiling until the whole *kwatha* was completely evaporated that is *ghrita* became devoid of moisture. *Sneha siddha parikshas* were done to check whether the proper *paaka* is attained or not. Procedure

was stopped when *madhyama paaka* was attained as according to *acharya Sarangadhara* *madhyama paaka* can be used for all proposes.⁹

CONCLUSION: *Asthi dhatu* is an important *dhatu* for human body as it provides the framework to support the body, provides attachment to muscles and other appendages. With the change in life style and food habits degenerative changes are increasing frequently. *Acharya Charaka* and *Vagbhata* have mentioned use of *Tikta ghrita* to be used in form of *vasti* for *asthi gata vyadis*. Here *Tikta ghrita* is prepared by selecting *Tikta rasa* predominant drugs from *Vata shodhan gana* of *Acharya Vagbhata*. Its pharmaceutical process was studied which incorporates use of 25 drugs to be used for preparing *ghrita*. The *ghrita* can be used in many forms either by *Vasti* (enema) or orally and its efficacy can be evaluated in *asthi gata vyadis* like *Katigraha* (lumbar spondylosis), *sandhigata vata* (osteoarthritis), *khalitya* (hair loss), and other disease related to hairs, nails and tooth.

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Declared