Chelonian Conservation And Biology

Vol. 18 No. 2 (2023) | https://www.acgpublishing.com/ | ISSN - 1071-8443

DOI: doi.org/10.18011/2023.11(2).940.946

UNDERSTANDING THE DRUSHTANTA "KSHEERASYA EVA SANTANIKA SAPTA TWACHO BHAVANTI" DESCRIBED IN SUSHRUTA SAMHITA SARIRASTHANA.

Dr. Goutamsinh Gopalsinh Jadeja[1], Dr. M. Thamizharasan[2], Dr. Rupaji Kadam[3], Dr. Manisha R. Kadam[4], Dr. Umesh Ghate[5], Dr. Umesh Tekawade[6], Dr. Suvarna Shelar[7].

[1]MD scholar, Department of Rachana sharira, Bharati Vidyapeeth (Deemed to be University), College of Ayurveda, Pune, Maharashtra, India

[2]MD scholar, Department of Rachana sharira, Bharati Vidyapeeth (Deemed to be University), College of Ayurveda, Pune, Maharashtra, India

[3]Guide, Assistant Professor, Department of Rachana sharira, Bharati Vidyapeeth (Deemed to be University), College of Ayurveda, Pune, Maharashtra, India

[4]Associate Professor, Department of Kriya sharira, Bharati Vidyapeeth (Deemed to be University), College of Ayurveda, Pune, Maharashtra, India

[5]Assistant Professor, Department of Kriya sharira, Bharati Vidyapeeth (Deemed to be University), College of Ayurveda, Pune, Maharashtra, India

[6]Guide, HOD and Professor, Department of Rachana sharira, Bharati Vidyapeeth (Deemed to be University), College of Ayurveda, Pune, Maharashtra, India

[7]Co-guide, Associate Professor, Department of Rachana sharira, Bharati Vidyapeeth (Deemed to be University), College of Ayurveda, Pune, Maharashtra, India

INTRODUCTION:

In Ayurveda classics many **“Drushtanta”** are used to describe the multiple structural, functional and clinical aspects of the structures. In Sushruta Samhita Sharirasthana Garbha Vyakaranam adhyaya the Drushtanta related to Twacha is described as **"Ksheerasya eva santanika saptatwacho bhavanti"**(1). Sushruta described that after fertilization, twacha forms like a layer of cream on the surface of milk. This description mainly explains the initial course of development of garbha. During the development the differentiation of the layers of twacha takes place and it is produced due to three doshas, particularly by pitta. Twacha is formed due to the paka of rakta dhatu by its dhatvagni in the fetus (raktadhatvagni of garbha as well as garbhini) as per the description in Ashtanga Hrudayam(2). Twacha is described as upadhatu of mamsa dhatu(3).

DOSHA- Udana vayu and bhrajaka pitta are responsible for maintaining varna and prabha of the skin. Change in varna of the skin shows the Vikrutha panchbhautikchhaaya of the skin(4). DHATU- Twacha is the seat of rasa dhatu & it is the upadhatu of mamsa dhatu. MALA- Twak sneha is mala of majja dhatu. SROTAS - Twacha is the moolasthana of mamsavaha srothas. Description of twacha as moolasthana of mamsavaha srotas as well as upadhatu of mamsa dhatu is clinically significant(5).

In Modern science skin is differentiated into layers as follows(6):

Epidermis:

- ★ Stratum corneum
- ★ Stratum lucidum
- ★ Stratum granulosum
- ★ Malpighian layer (stratum spinosum)
- ★ Papillary layer

Dermis:

- ★ Reticular layer
- ★ Subcutaneous tissue.

Hypodermis:

- ★ The fascia

This is an attempt to explore the clinical significance of twacha and twacha nirmitee in context of the drushtanta.

METHODOLOGY:

Study of Nirukti of the terms found described in the Drushtanta "Ksheerasya eva santanika sapta twacho bhavanti". Literary aspect of Drushtanta is being the multidimensional example, following aspects are explored:

- Development of Twacha in respect of Sharirabhava.
- Study of arrangement of layers of skin in respect of Sharirabhava.
- Study of Drushtanta in respect of Pinda Brahmanda Nyaya.

OBSERVATION & RESULTS:

Nirukthi:

Ksheera (milk) Santanika - क्षीरस्य सन्तानोऽस्त्यस्य ठन्(7)

Twacha - त्वच्यते संव्रियते देहोऽनया त्वचति संवृणोति वा देहम् त्वच--क्विप् ।(7)

- Development of twacha in respect of Sharirabhava: according to the drishtanta, the Prathama twacha can be considered as a limiting layer which differentiates pinda from brahmanda.

The layers of santanika are added to the previous layers from the inner surface of the santanika. If this is the phenomenon according to drushtanta, then the correlation of sapta twacha in respect of dhatu is needed to be considered as follows(1):

LAYERS OF TWACHA	FORMATION AND COMPOSITION
Prathama (1st layer)	Anna udaka pachana & formation and pachan of rasadhatu (leading to formation of rakta dhatu)
Dwitiya (2nd layer)	rakta dhatu pachana & formation of mamsadhatu
Tritiya (3rd layer)	mamsa dhatu pachana & formation of medho dhatu
Chaturthi (4th layer)	medho dhatu pachana & formation of asthi dhatu
Panchami (5th layer)	asthi dhatu pachana & formation of majja dhatu
shashti (6th layer)	majja dhatu pachana & formation of sukra dhatu
Saptami (7th layer)	sukra dhatu pachana & formation of oja.

The Agni Samskara (heating) creates expansion in Ksheera (milk) in initial stage and when heating stops, the Ksheera (milk) get settled (Swangasheeta manner) then the formation of Santanika takes place. If this is the phenomenon of non- biological manner, the same is needed to be considered as explanation in context of biological phenomenon also maybe at tissue/ at cellular level. Phenomenal heating of milk in which the large magnitude of water along with the other milk content is having similarity with water metabolism and other metabolism of the body.

Study of drushtanta is needed to be considered in respect of pinda brahmanda nyaya which can be considered as follows:

Considering Prathama twacha as a limiting structure between pinda and brahmanda, the inner layers of twacha i.e., from dwitiya to Saptami twacha can be considered as part and parcel of the

pinda, though they are also a part of santanika (Santanika is a structure between pinda and brahmanda). It means the layers of twacha from dwitiya twacha to Saptami twacha are playing both roles: 1) as a part of limiting structure between pinda and brahmanda, 2) a component of pinda formed /developed because of the agni samskara on pindastha sharirabhava i.e., dosha, dhatu, mala.

Ksheera (milk) santanika formation phenomenon of godugdha	Pinda context (living entity)	Bramhanda context	
		Organic transformation	Inorganic transformation
Ksheera (milk)(8): • Jaliya ansha • Ajaliya ansha: 1. Proteins 2. Fats 3. Carbohydrates 4. Vitamins 5. Emulsifiers, etc.	Panchabhautik jeevit sharira/Pinda (animal kingdom + plant kingdom) in context to the study of living mammals. Effect of heat, time, GIT micro-organisms, enzymes, etc. on cells/tissues leads to formation of: • Carbohydrates • Proteins • Fats • Residual material • Water, etc. Which is going to process in cyclic manner	Carbon compounds (plants, dead bodies, etc) Effect of pressure, heat, time, micro-organism, enzymes create: • Crude oil(9)	Non carbon compounds (metals, salts, etc) Effect of pressure, heat, time, oxygen • Mineral ores
Agni samskara(10): • Conduction • Convection • Radiation	**Cyclic process:** Carbohydrates- energy Proteins- cell bodies, RNA, DNA, energy Fats- enzymes, Cell bodies and cell matter,	Crude oil after various processes forms: • Natural gas(9) • Petrol	Mineral ores after different processes forms: • Metals

<table>
<tr><td></td><td>energy, lubricating fluid, etc.

Non-cyclic process:

Residual matter- stools, urine, sweat.</td><td rowspan="2">• Diesel
• Residual oil, etc.

There is a difference in crude oil and mineral ore depending on the nature of the deposits of the reservoir. It can be classified into low density, high density, sweet oil, sour oil(11).</td><td rowspan="2">• Basic salts, acidic salts, etc</td></tr>
<tr><td>Ksheera (milk) shows immediate deconstituation if affected by amla rasa whatever may be the quantity. Madhura, tikta, kashaya and katu rasatmaka dravya can be used for ksheera (milk) siddha aushadhi.</td><td>All the above compose the body.

Composition and quality of the body and skin depends upon the variety of food consumed i.e., veg and nonveg diet and even the diet according to geographical location(12).</td></tr>
<tr><td>Santanika: combination of fats, proteins and jala(13).

The outer surface is dry and tough, protects the milk inside.

The inner surface contains more moisture, reflecting the quality of milk to a greater extent.

Santanika leads to the formation of navaneet (butter) and takra (buttermilk)(14). Both of which are very useful(15). Thus, santanika has no waste product and is the saaratam ansh of milk.</td><td>Saptadhatusaara</td><td colspan="2">Panchbhautik Dravya (organic or inorganic substances) e.g. sunlight, which can be utilized for any biological cyclic process.</td></tr>
</table>

- Santanika reflects the quality of milk in accordance with the drushtanta, twacha (skin) reflects the quality of vividh sharira bhaava (dosha, dhatu and mala) in pinda.

CONCLUSION:

The following things need to be perceived by means of the Drushtanta "Ksheera (milk)sya eva santanika sapta twacho bhavanti".

1. The Ksheera (milk) being Sampoorna anna (complete food)(16) is having Drushtanta Sadharmya with Saptadhatu,Tridosha,and Mala.
2. The Santanika is having Drushtanta Sadharmya with Twacha and its composition.
3. The Agni Pachana of Ksheera (milk) needs to be consider as similar to Pachana of Saptadhatu, Tridosha and Mala.
4. The Prakrutatva and Vikrutatva in the Sarirabhava will produce their effects on Saptatwacha.
5. Goksheera (milk) santanika should be considered as laghugunatmaka saptadhatu saara for the clinical purposes. [E.g. therapeutic intervention in amlapitta (hyperacidity), IBS (Irritable Bowel Syndrome), daurbalya (general debility) etc.]

CONFLICT OF INTEREST –NIL

SOURCE OF SUPPORT -NONE

REFERENCES:

1. Dalhanacharya. Sushruta Samhita [Internet]. Available from: https://niimh.nic.in/ebooks/esushruta/?mod=read

2. e vagbhata samhita [Internet]. Available from: http://vedotpatti.in/samhita/Vag/ehrudayam/?mod=read

3. Badhoria1 A, Jasrotia2 R, Ayush Verma2. A Review on Conceptual Study of Twacha Sharir (Skin). Int J Heal Sci ;; January. 2020;Research V(Issue: 1):98.

4. Badhoria1 A, Jasrotia2 R, Ayush Verma. A Review on Conceptual Study of Twacha Sharir (Skin). Int J Heal Sci ; Issue 1; January 2020. 2020;Research V(Issue: 1):97.

5. Chandrashekhar Y. Bangarwar SAE. Kriyatmaka adhyayana of twacha: “Ksheerasya eva santanika”. Intern J Res Indian Med. 2017;01(02):19.

6. Human Skin [Internet]. Available from: https://en.wikipedia.org/wiki/Human_skin#:~:text=Skin is composed of three,the dermis and the hypodermis.

7. Shabdakosha.

8. Contents of milk [Internet]. HARVARD T .H. CHAN. Available from: https://www.hsph.harvard.edu/nutritionsource/milk/#:~:text=Whole cow's milk contains about,skim" has virtually no milkfat.

9. Relation between natural gas and crude oil prices [Internet]. Available from: https://www.investopedia.com/articles/economics/08/crude-and-gas-prices.asp#:~:text=There is a limited positive,of drilling for crude oil.

10. Type of energy transfer [Internet]. Available from: https://study.com/academy/lesson/the-process-of-energy-transfer.html

11. OIL AND PETROLEUM PRODUCTS EXPLAINED [Internet]. Available from: https://www.eia.gov/energyexplained/oil-and-petroleum-products/

12. Su-Min Jeong, Dong Hoon Lee LFMR& ELG. Different correlation of body mass index with body fatness and obesity-related biomarker according to age, sex and race-ethnicity. Sci Reports Vol 13, Artic number 3472 [Internet]. Available from: https://www.nature.com/articles/s41598-023-30527-w

13. P.F.Fox, McSweeney P. Water in Milk and Dairy Products. Researchgate [Internet]. Available from: https://www.researchgate.net/publication/292431886_Water_in_Milk_and_Dairy_Products#:~:text=Abstract,cream%2C yogurt and most cheeses.

14. CREAM [Internet]. Available from: https://en.wikipedia.org/wiki/Cream

15. E Ashtanga Hrudayam [Internet]. Available from: http://vedotpatti.in/samhita/Vag/ehrudayam/?mod=read

16. BYJU'S APP [Internet]. Available from: https://byjus.com/question-answer/food-containing-all-nutrients-is-called-2/