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Structural Study Of Twaka Shareera W.S.R To Visarpa

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ABSTRACT: Ayurveda describe the organization of the body in term of *doshas, dhatus and malas*. *Twacha* is one among the *updhatus* which provide protective layer over the body that protect from the heat, cold & external infection. The union of *Shukra* (spermatozoa) & *Shonita* (ovum) while being cooked (processed by heat) give rise to the formation of seven *twaka* (skin) just like formation of cream when milk is boiled. Acharya Susruta and other Acharyas are described *twaka shareeram* in detail. Acharya Susruta defined *Twacha as Upadhatu of mamsa dhatu*. *Twacha* is one among the *Panch jyanendriya*, which carry sensation of touch.& It covers external part as well as internal part of body. Since antiquity human being often suffered from many type of diseases, out of them skin disease is one of the major problem for the community, because there is a change in the structural appearance of the skin & it make entire body ugly. There are different theories among the Acharyas regarding the number of layers. *Acharyas Charaka* consider that *Twacha* is made up of six layers where others. Acharya Susruta considers seven layers. In this layers of *twacha*, different type of diseases observe in different layers. Out of this, a very commonly seen “*Visarpa*” disease is found in one of the *Twacha layer*. “*Visarpa*” is one among the type of skin disorder which is common and acute disorder of *Twacha*. *Acharyas* describe symptoms of *Visarpa* like – spreading character, Inflammation, Pricking type of pain, Fever, Vesicles, Segmental spreading, Redness, Rapid spreading. Although *Twacha* has been explained in our classic, we get very vague and very less description about the disease related to *Twacha shareera*. And it is outermost protective layer of the body, so it becomes essential to know the structural and anatomical changes occur in the *Visarpa*. Now a day’s *Visarpa* disease largely spread in the human being. While diagnosing the patients of *Visarpa*, there is difficulty regarding the identification of structural deformity, hence need is felt to study the *Visarpa & twak shareera*.

Key words :- *Twacha shareera, Visarpa, Inflammation, skin*

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INTRODUCTION

The *shareera* a branch of medical science that deals with the structural and functional aspects of a living body is important for the achievement of goals of the medical branches and the prevention and the treatment of diseases of entire human kind¹. For any successful Vaidya or *Shalya Chikitsaka* thorough knowledge of *Shareera* is very essential for diagnosis and treatment or to perform surgical procedures. The physician will become greatly learned only after observing the body carefully (with his own eyes), study of the science; getting rid of doubts by personal observation and study of texts, he should carry on his activities². But these are many structures in the human body which cannot be visualized by naked eyes. It is possible to explain these minute structures only in this modern era with the help of

advanced technology which has given us Zoom view. Although in ancient classics some description of such minute structures is available. It was possible for *Acharyas* with the help of “*Gnyanachakshu*” and “*Tapaschakshu*”. Acharya Susruta explained it is not possible to see with the physical eyes the very minute *Vibhu* (*Atma* or soul) in the body; he can be seen with *Gnyanachakshu* (Eye of Knowledge). Here *Gnyanachakshu* means knowledge obtained by study of texts. *Tapaschakshu* (Eye of penance). Here *Tapaschakshu* means obtaining knowledge from meditation³. In *Ayurvedic* texts knowledge of Ayurveda is classified in eight main branches. *Kaya* (Medicine), *Bala* (Pediatrics), *Grahachikitsa*, *Urdhwanga* (Ophthalmology & ENT), *Shalya* (Surgery), *Danshtra* (Toxicology). *Jara* (Rejuvenation)

and *Vrishana* (Virilification) are the eight branches of Ayurveda⁴. The knowledge of these eight branches is present in various texts like *Brihatrayi*, *Laghutrayi* and other textbooks. The authors of these texts have given special contributed of to a particular branch. So they are considered master of that branch. *Acharya Susruta* is master in *Shareera* (Anatomy), *Acharya Charaka* is master in *Chikitsa* (Medicine), *Acharya Madhava* is famous for *Nidana* (Diagnosis) and *Acharya Vagbhata* is famous for basic principles of Ayurveda described in *Sootrasthana*⁵. In *Susruta Samhita*, *Acharya Susruta* has described the structures of human body in detail. He studied the human body by the technique of human body preservation and dissection which is very much different from today's method *Acharya Susruta* was the first to dissect human body In *Shareera sthana* of *Susruta Samhita*, detail knowledge of human body is present. In *Garbhavyakarana adhyaya*, a detail description of *Twacha Shareera* is present which will be studied in further topics. Also relation of *Tamra Twacha* and *Visarpa* will be studied.

AIMS AND OBJECTIVES

1. The comprehensive and structural study on *Twaka shareera* as mentioned in the texts, view of regional and applied anatomy in the contemporary science.

2. To give appropriate & elaborate description on *Visarpa* and its relation with the 5th layer of skin is *Vedini*.
3. The main aim is to Study the *Visarpa* and its Structural abnormalities caused during disease.

REVIEW OF LITERATURE

Review of *Twacha Shareera*:

In any field of medicine, Theoretical knowledge should be accompanied by practical knowledge. With only of these, one cannot be perfect. The knowledge observed by direct perception and that obtained by the study of the science, both together make for enhancement of one's knowledge. It is always helpful to expand the boundaries of knowledge in any field⁶. As far as concerned to *Shareera Rachana*, one must have good theoretical knowledge with perfect and right concepts in mind accompanied with dissection of the human body to confirm the concept and ideas. *Acharya Susruta* has described all the structure of human body by doing dissection. His method of dissection was very unique and much different from today's method.

After stating how an ideal dead body should be, technique of preservation and decomposition of the dead body, he tells to start dissection from outermost covering of the

body i.e. skin. After full decomposition of the dead body Susruta tells to separate layers of skin one by one and to go deep to visualize structures underneath the skin. From this, it is crystal clear that skin is the outermost covering of the body⁷. Description of various parts of the body commencing with the skin (and all the other organs) furnished so far, cannot be obtained apart from *Shalya gnyana*. Here *Shalya gnyana* means knowledge of science of surgery by any body⁸.

Definition:

The external covering of the body is called *Twak or Twacha*. A type of Indriya which envelop the body is called *Twagindriya or Sparshanendriya*. As per Charaka, Twacha which cover the entire body with shadanga shareera⁹.

Etymology Of Twacha: Twag +Kwip

Number Of Twacha: There is a great controversy in various Ayurveda texts regarding number of *Twacha*. After studying above lines we come to the conclusion that *Acharya Charaka, Vrudda vagbhata, Bhela and Kashyapa* have stated 6 types of *Twacha*. While *Acharya Susruta and Vagbhata Bhavaprakasha* have stated seven type of *Twacha*¹¹.

Different Type Of Twacha In Brihatrayi And Laghutrayi:

In Brihatrayi:

A. Charakasamhita:- In *Shareerasankya Shareera Adhyaya of Shareera sthana*, *Acharya Charaka* has described six types of *Twacha*.

According to Charaka 6 types of Twacha⁹:

1. **Udakadhara:** It is an outermost layer of *Twacha*. As per the name, it holds *Rasadhatu and Lasika* inside the body and prevents their loss from the body.
2. **Asrukdhara:** It is the layer next to *Udakadhara* which has supplied by numerous blood vessels and it hold blood inside the body. *Acharya Charaka* has given names, only for first five layers of *Twacha*. He described next layers of *Twacha* on the basis of *Vyadhi* occurring in them.
3. The third layer is the seat of manifestation of *Sidhma and Kilasa*.
4. The fourth layer is the seat of manifestation of *Dadru and Kushta*.
5. The fifth layer is the seat of manifestation of *Alaji and Vidradhi*.
6. The sixth layer is one on excision of which causes loss of consciousness.

SUSRUTA SAMHITA: ¹⁴

In *Garbhavyakarana Adhyaya* of *Shareera sthana*, *Acharya Susruta* has described seven types of *Twacha*, their thickness and diseases occurring in each layer, These seven types of *Twacha* are as follows, the first and outermost layer of *Twacha* is *AVABHASINI* which reflects all sort of complexion, also brightens five types of shades. It is seat of *Sidhma* and *padmakantaka*, The Second layer is called as *LOHITA* and is the seat of *Tilakalaka*, *Nyachha* and *Vyanga*, The third layer is *SHWETA* and it is the seat of *Charmadala*, *Ajagallika* and *Mashaka*, The Forth layer is called *TAMRA* which is the seat of various types of *Kilasa* and *Kushta*, The Fifth layer is *VEDINI* which is the seat of *Kushta* and *Visarpa*, The sixth layer is *ROHINI* which is the seat of *Granthi*, *Apachi*, *Arbuda*, *Shlipada* *Galaganda*

The innermost and seventh layer is *MAMSADHARA* which is the seat of *Bhagandara*, *vidradi* and *Arsha*.

ASHTANGA SANGRAHA: ¹⁵

In *Anga Vibhaga Shareera Adhyaya* of *Shareera sthana*, *Vridha Vagbhata* has described seven layers of *Twacha* *Acharya Vagbhata* has given description of *Twacha* more or less similar to *Charaka*. According to him.

1. *ASHTANGA HRIDAYA*: First layer is *Udakadhara*.
2. Second layer is *Asrukdhara*.
3. Third layer is the seat of *Sidhma* and *Kilasa*
4. Fourth layer is the seat of all types of *Kushta*.
5. Fifth layer is the seat of *Alaji* and *Vidradhi*.
6. Sixth layer is *Pranadhara*.

Acharya Vagbhata has not given any details of *Twacha* except the genesis of *Twacha*.

IN Laghutray**SHARANGADHARA SAMHITA:**

In *Kaladikakkyana Adhyaya* of *Prathama Khanda*, *Sharangadhara* described seven *Twachas*

According to Sharangadhara: ¹⁶

1. First layer is *Avabhasini* seat of *Sidhma*.
2. Second is *Lohita* of *Tilakalaka*
3. Third is *Shweta* seat of *Charmadala*
4. Fourth is *Tamra* seat of *Kilasa* and *Shwitra*.
5. Fifth is *Vedini* seat of all *Kushta*.
6. Sixth is *Rohini* seat of *Granthi*, *Ganda*, *Apachi*.

7. Seventh is *Sthoola* the seat of *Vidradhi* and it is thick equal to two *vrihi*.

MADHA VANIDANA:

There is no description regarding *Twacha* in *Madhava Nidana*

BHAVAPRAKASHA:¹⁷

According to *Bhavaprakasha* there are seven types of *Twacha*.

1. The first is *Avabhasini* which is the seat of *Sidhma*.
2. The second is *Lohita* seat of *Tilakalaka*.
3. The third is *Shweta* seat of *Charmadala*.
4. Fourth is *Tamara* seat of *Kilasa* and *Shwitra*.
5. Fifth is *Vedini* which is the seat of all *Kushta*.
6. Sixth is *Rohini* which is the seat of *Granthi*, *Ganda* and *Apachi*.
7. Seventh is *sthoola*, the seat of *Vidradhi*

Thickness Of Twacha:

In various *Ayurvedic* texts, there is a description of *Twacha*, its layers and diseases occurring in each layer of *Twacha*. *Susruta Samhita* is unique for the description of thickness of *Twacha*. Here, *Susruta* describes thickness of *Twacha* in the measurement of *Vrihipramana*. (*Vrihi*-Rice Grain) So, *Avabhasini Twacha* is thick = $1/18^{\text{th}}$ part of 1 *Vrihi* and likewise about other layers of *Twacha*. But this measurement of *Twacha* is

not throughout same for all body parts. It differs according to various body parts¹⁴, The measurement of thickness of *Twacha* mentioned above is applicable for only thick skin on muscular parts of the body. It is not applicable for forehead and small fingers¹⁴. According to *Dalhana*, a commentator of *Susruta Samhita* twenty parts of 1 rice grain should be and then thickness of *Twacha* should be determined e.g. *Avabhasini Twacha* is thick = $18/20$ of 1 *Vrihi*¹⁸. So, according to *Susruta* and *Dalhana*, there is a great controversy regarding thickness of *Twacha*.

Susruta: 3.5 Vrihi Dalhana : Appr.6 Vrihi

If practically observed, the thickness of *Vrihi* measures average 1mm. So, the thickness of *Twacha* told by *Susruta* and *Dalhana* expressed in Modern measures will be: *Susruta* : 3.5 mm *Dalhana* : Appr.6mm, If we want to compare this measurement with modern measurements (skin thickness = 1.5 to 4 mm), then *Susruta* seems to be perfect and more accurate in telling thickness of skin. Because according to *Dalhana*, it becomes 6mm which is highly impossible.

NORMAL SKIN:

The skin is tough and a uniform protective covering of the entire surface of the body and deeper tissues, with its all derivatives know as

Integument (Latin – a covering). It contains the peripheral ending of many sensory nerves. Skin regulates body temperature and possesses limited excretory and observing powers. In adults skin covers about 2m.sq area and has weight of approximately 4-5kg. Its thickness is 0.5 – 4 mm depending on its location. The thickness of the skin increases gradually after birth until age of 30 and then slowly begins to thin down. The human skin shows wide regional variation in structure like scalp, face, ear lobes, back, palms and soles etc, The skin is a largest organ in the human body it consist of vascular connective tissue named corneum dermis and an external covering of epithelium called as epidermis. The sweat gland, sebaceous glands and hair follicles are embedded beneath it and called as appendages of development of skin in foetu, Deep to dermis is sub-cutaneous layer this layer is also called superficial fascia or hypodermis, consist

of aeriolar and adipose tissues. Fibres from dermis extent into the sub-cutaneous layer inturn attaches to the underline tissues and organs. So, the skin is composed of 3 distinct layers from surface of downward and they are,

1. Epidermis
2. Dermis
3. Hypodermis.

Epidermis - Surface ectoderm, melanoblast (dendritic cells) from neural crest.

Dermis - Mesenchyme derived from dermatomes of Somites.

Nails - Ectoderm of each digital tip, later migrates to dorsal surface.

Hair - Surface ectoderm, which is modified to form hair follicles.

Sebaceous glands – Arise as diverticula"s from hair follicles.

Sweat glands - Develop as down growth from the epidermis later canalized.



RESULTS

For the observation based on literary and histo pathological study, According to Acharya *Sushruta* there are seven types of *Twacha* and out of these seven *Twacha*. *Visarpa* occurs in Fifth layer of *Twacha* i.e.: *Vedini*, Acharya *Susruta* seems to be more accurate in telling thickness of *Twacha* His measurement of thickness of all the layers of *Twacha* expressed in modern units is very much similar to the thickness of skin given in modern texts, *Visarpa vyadhi* and Herpes zoster a type of skin disease have most of the same symptoms which are correlated on the basis of literary, histo-pathological and clinical study of both *Ayurveda* and modern science, *Visarpa* is mostly correlated with the Herpes zoster or shingles because varicella zoster virus is member of herpes virus family and cause Chickenpox and Herpes zoster. As per *Samhita Roopa* or symptoms explained by Acharyas. After histopathological study the acantholytic cells are seen in pemphigus and multinucleate giant cells appearance is seen under microscope. After report of skin biopsy, Stratum spinosum and Papillary layer of dermis are affected in most of the patients and Reticular layer of dermis is affected in very few patients.

CONCLUSION

1. It is conceptual observation study entitled study of *Twak shareera w.s.r Visarpa*.
2. *Visarpa* is a disease is mentioned as the one of the *Twak* disorder and this disease is very well correlated to Herpes Zoster.
3. In this study it was observed that the *Visarpa* is mainly seen in between age group of 28 to 37 years (60%) and it is more common in males (53%) and may be because of more intake of mixed diet and consuming more *Katu, Tkita, Amla aahara* rasa and it is cause *Pitta prakopa*. It is also shown its role in the causes of the disease.
4. About the site of Herpes Zoster out of 30 patients 2 patients in Facial region, 7 patients in thorax, 2 patients in wrist joint, 4 patients in groin region, 3 patients in axilla region, 8 patients in thigh region and 4 patients in Back are prone appear Herpes zoster.
5. Out of 30 patients Lesions / Vesicles found in almost all the cases.
6. *Shotha, Nistoda, Ragata* found in almost all the cases.

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