



Conceptual Study on Twacha Sharir its Ayurvedic and Modern Aspect

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ABSTRACT: Skin is a largest organ of our body, Skin is the general covering of entire external surface of body including external auditory meatus & outer surface of tympanic membrane, it also continuous as mucous membrane at the orifices of the body. Skin is thickest on the palms and soles of the feet (1.5 mm thick), while the thinnest skin found on the eyelids and in the post auricular region (0.05 mm thick). Pigmentation of skin is determined by five pigments i.e. melanin, melanoid, carotene, haemoglobin & oxy haemoglobin present in different layers of skin. In Ayurveda the word "Twacha " or Charma" is used for skin Twacha is derived from "Twak Samvarne" dhatu meaning the covering of the body. Achaarya Charaka says that all the organs are the modification of Panchamahabhut, so the Rachana and Kriya of these organs have been organised according to their Panchabhautika constitution. Twacha has been counted in Prithvi and Vayu dominant organs.so in this article Ayurvedic approach to Twacha sharir taken for study.

KEYWORDS: Twacha, Skin, Panchamahabhut

INTRODUCTION

Acharya Sushruta has mentioned five sensory organs ie. Gyanendriyas. Sparshanendriya is one of them whose adhishtana is Twacha (skin). As we know, skin is the largest sense organ of the body which sense touch, pain, pressure, temperature etc. Twacha is measured as upadhatu of mamsadhatu.^[1] Twacha is one among the five gyanendriyas.^[2] It is a base of sparshanendriya. Twacha has several views and counter views regarding twachauttapati, twachastara and concomitant skin disorders. Skin, the largest organ of human body^[3], holds significant prominence in maintaining normal human physiological condition Twachapareeksha is also explained among eight tool of Ashtavidha pareeksha^[4]

Formation and development of Twacha is took place during the "Garbhanirmati" ie Process of formation and development of Garbha. According to Charaka Garbha is formed by the amalgamation of Shukra, Shonita and Jiva (soul) in mother's womb. Along with above three elements Ashta Prakruti and Shodsha Vikara is also involved in Garbhanirman. Sushruta depicts formation of Twacha from the metabolization of Shukra & Shonita by Tridosha. For better understanding of Twacha Uttapati in Brihatrayee the whole process of formation of Twacha is compare with formation of creamy layer over the surface of milk, when it is boiled and allowed to cooled down, formation of thick layer of skin take place which is explained as "Ksheerata-Santaanika. Indu in his commentary "Shashilekha" explains the appearance and arrangement of skin layers by

giving an illustration of Kadalidal i.e. Stem of Banana, which has several layers that are arranged in systematic concentric manner.

MATERIAL AND METHOD

Formation of twacha:

Acharya Sushruta has described process of formation of Twacha in the developing foetus. He states that after fertilization of ovum, twacha develops like a cream on a surface of milk. Acharya Vagbhata describes the formation of Twacha due to Paka of Rakta Dhatu by Rakta Dhatvagni in the developing foetus. After paka, it dries up to form Twacha just like the deposition of cream on milk over the surface of boiled milk.^[5]

Synonyms of Twacha:

The third angle from which twacha could be examined is through Paryaaya vachana, the study of synonyms. Some of the Sanskrit synonyms for the term twacha are,

- 1) Charma: a basonym for twacha, probably cognate to derma of Greek; implying the dynamic nature of skin.
- 2) Sparshadhi sthana: the substratum for the sense of touch.
- 3) Tanu: the thin and the stretched out (from the root tan-to stretch, as in the familiar term "Tension" from the cognate Latin root tenses, tender" to stretch" (The term also implies what is subtle and beautiful, as in the word "tanu madhyama meaning a small waistline of a beautiful damsel.
- 4) Asrukdhara: the bearer of blood meaning blood flows through skin.
- 5) Twag: skin (as in the term twag mamsa skin and flesh). This also indicates the movements of skin in the form of pulsatility and responsiveness.

Panchabhautikatwa of Tvak:

Acharya Charaka says that all the organs are the modification of Panchamahabhuta, so the Rachana and Kriya of these organs have been organized according to their Panchabhautica constitution. Twacha has been counted in Parthiva and Vayu dominant organs^[6]. As Acharya Caraka says each and every Dravya is Panchabhautica, so according to that the Pancabhautica constitution of Twacha can be understood as follows.

Mahabhuta	Effect /Reason
Prithvi	Twacha has been considered as the updhatu of Mamsadhatu that shows it is stable
Jala	Due to the presence of Jala Mahabhuta, Tvak is snigdha and firm.
Agni	Tvaka has the specific Varna and lustre Which are due to the Agni Mahabhuta.
Vayu	Twacha is the Adhithana of Sparshendriya Hence Vayu Mahabhuta is also there
Akasha	Presence of some micro channels of Sweda are indicative of the presence of Akasha Mahabhuta

Layers of the Twacha

The Twacha has seven layers, but there are some difference of opinion regarding the number of layers in between the ancient scholars like,

- a) Acharya Caraka describes six layers of skin but while elaborating these layers he has termed only two layers the rest four layers have been described in terms of the diseases

Layer	Name
1. Prathama	It is Udakadhara which is considered as Bahya –Tvak
2. Dvitiya	It is Asrgdhara
3. Tritiya	It is Sidhma, Kilasa, Sambhavadhithana
4. Chaturtha	It is Dadru, Kustha, Sambhavadhithana
5. Panchami	It is Alaji, Vidradhi, Sambhavadhithana
6. Shashthi	If this layer is injured then the individual gets Tembling and enters in to the darkness

- b) Acharya Susruta has described seven layers of skin along with the specific names. He has also mentioned the thickness of each layer. Along with the diseases, which are prone to that layer^[7]

Name	Thickness	Diseases
Avabhasini	1/18 of Vreehi (0.05 to 0.06 mm)	Sidhma, Padmakantaka
Lohita	1/16 of Vreehi (0.06 to 0.07 mm)	Tilakalaka, Nyach, Vyanga
Shweta	1/12 of Vreehi (0.08 to 0.09 mm)	Carmadala, Masaka, Ajagallika
Tamra	1/8 of Vreehi (0.12 to 0.15 mm)	Kilasa, Kushtha
Vedini	1/5 of Vreehi (0.20 to 0.30 mm)	Kushtha, Visarpa
Rohini	1 Vreehi (1 to 1.1 mm)	Granthi, Arbuda, Apachi, Shleepada, Galaganda
Mamsadhara	2 Vreehi (2 to 2.1 mm)	Bhagandara, Vidradhi, Arsha

- c) Acharya Vagbhata has described seven layers of skin similar to Acharya Sushruta. He has not given any detail description. Commentator Arundatta and Hemadri have named them according to Acharya Sushruta

Ancient term	Modern term	Types of skin
Avabhasini	Stratum corneum	Epidermis
Lohita	Stratum Lucidum	Epidermis
Shweta	Stratum Granulosum	Epidermis
Tamra	Malpighian layer	Epidermis
Vedini	Papillary layer	Dermis
Rohini	Reticular layer	Dermis
Mamsadhara	Subcutaneous tissue and Muscular layer	Dermis

So, it is essential to check its relation with Dosha, Dhatu and Mala like basic structural and functional units of the body.

Twacha and Tridosha:

There are three Doshas in our body. They are situated in specific places, which have been described in texts. According to that Twacha has been mentioned as one of the sites of Vata and Pitta Dosha.^[8]

(a) Twacha and Vata Dosa : Acharya Charaka has described Twacha as a Sparshanendriya adhisthana.^[9] Sparsh ie. Touch sense is the subject of sparshanendriya which is performed by Vata Dosha.

(b) Twacha and Pitta Dosa : Bhrajaka Pitta is one of the type of Pitta which is located in skin. Bhrajaka Pitta is also called as Bhrajakagni, which is also situated in Twacha and forms the lusture of the skin..

Acharya Charaka has not specified the types of Pitta but he has said that the production of normal and abnormal colour of skin is belongs to the Pitta Dosha. Commentator Chakrapani comments on that and says that the regulation of body heat and variations in colour of the body are the functions of the Bhrajaka Pitta

Acharya Sushruta describes it as a Bhrajakagni and it enables the digestion and utilization of substances used through Abhyanga, Parisheka and Alepana, Avagahana etc. It indicates the glow of one's natural complexion. Acharya Vagbhata observes that Bhrajaka Pitta is situated in the skin. It imparts the lustre and radiance of the skin. Acharya Bhela says that Bhrajaka Pitta is responsible for the manifestation of the specific Characteristics in the body like, it creates the various Prabha of head, hand, feet, side, back etc. Bhrajaka Pitta also brightens the Prabha.

(c) Twacha and Kapha Dosha: The snigdghata shlakshnata, Mruduta, Shitata, prasanata and snighdhavarnata are the attributes to the presence of Kapha Dosha. Ropana Karma i.e. self-healing process is also one of the work protect by Kapha Dosha.

Twacha and Sapta Dhatu:

a) Twacha and Rasa Dhatu: At several places Twacha has been used, as a synonyms of Rasa Dhatu like Tvaksara Purusa etc. In context of Kushtha Roga, Acharya Sushruta has mentioned that in early stages Kushtha is situated only in the Twacha. Dalhana comments on it and says that Twachashrita i.e. Rasashrita Kushtha.^[10] Chakrapani has described the six layers of skin first amongst them is Udakadhara its main work is to maintain

the water content of the body. Rasa Dhatu is also Jala Mahabhuta Pradhana in Panchabhautica constitution. So one can consider the relation between Rasa Dhatu and Twacha.

b) Twacha and Rakta Dhatu: Acharya Sushruta has described the functions of Rakta Dhatu as Varna Prasadana i.e. It imparts the colour of skin, Mamsa Pusti i.e. Nourishes the Mamsa Dhatu in the body^[11]. Rakta Dhatu is also responsible for the proper conduction of tactile sensation of skin.

c) Twacha and Mamsa Dhatu: Twacha is closely connected with Mamsa Dhatu because it is a Upadhatu of Mamsa Dhatu. So for the development and Nourishment of Mamsa Dhatu is concerned Twacha is very important factor.

Twacha and Trimala:

Mala (Annamala), Mutra and Sweda are the main three malas in the outcome of sara kitta vibhajana process during Dhatvagnivyapara. The kitta part is excreted out from the body. The Sweda is the mala of Meda Dhatu, which is excreted out from the Svedavali Srotas of Twacha. Sweda maintains the Lustre and Humidity of skin. According to Ayurveda Nails and Hairs are the Mala of the Asthidhatu and Tvakgata Sneha is the Mala of Majjadhatu.

From the above facts it is easy to understand the relation between Twacha and Dosha Dhatu and Mala the basic units of the body.

ACCORDING TO MODERN

Skin peripheral cutaneous layer which covers the outer surface region. Skin is the biggest organ of the body per weight and body surface region. Grown up skin region is around 2 square meter (22 square feet) and weight 4.5 kg i.e 16 % of absolute body weight. Thickness of skin ranges between 0.5 mm (0.02 in,) to 4.0mm (0.16in), practically over body it is 1mm (0.04-0.08 in) thick skin is made out of two sections. Epidermis external shallow dainty piece comprised of epithelial tissue. Dermis profound thick piece of connective tissue. Another layer is appended profound to dermis is subcutaneous layer, it isn't essential for skin. It comprises of areolar and fat tissue which is otherwise called hypodermis. strands from dermis anchor the skin to subcutaneous layer and again it joins to basic organ and tissues. This profound layer (subcutaneous layer) functions as capacity for fat, veins which supply skin. It contains sensitive spots called lamellated corpuscles which are delicate to pressure. The subcutaneous layer fills in as a stockpiling stop for fat and contains enormous veins

LAYERS OF EPIDERMIS

Epidermis has following layers: 1) Layer Basale (layer germinativum) most profound part it is isolated from dermis by stratum corneum and connected by hemidesmosomes to basal layer. The layer contains melanocytes, cells are cuboidal to columnar and mitotically dynamic continually produce keratinocytes. 2) Layer spinosum (prickle cell layer) 8-10 cells contain dendritic cells, sporadic, polyhedral cells with cytoplasmic cycles, they stretch out outward and contact to one more cell by desmosomes. 3) Layer granulosum 3-5 cell layers -this layer contains jewel molded cells having keratohyalin granules which contains keratin antecedents" structures groups. lamellar granules contain glycolipids what capability like paste and keep cell stay together 4) Layer lucidam 2-3-layer cell-it is tracked down in palms and soles. this is slender clear layer containing eleidin delivered from keratohyalin. 5) Layer corneum shallow part. 20-30 cell layers, this layer is comprised of keratin, horny scales (result of dead keratinocytes). Thickness fluctuates keratinocytes privileged insights safeguards which are dynamic during resistant reaction

DERMIS

Dermis is associated with epidermis at cellular layer level, dermises comprise of two layers. 1) Papillary layer: it is upper layer, slim comprises of free connective tissue and contacts epidermis. 2) Reticular layer: it is profound layer, thick less cell in nature. It contains thick connective tissue, collagen filaments. Dermis has hairs, hair follicles, muscles, tactile neurous, sweat organ and veins

HYPODERMIS

Hypodermis otherwise called subcutaneous belt is profoundly arranged to dermis. This profound layer comprises of hair follicles, tactile neurons, veins and fat lobules.

PANCHABHAUTIKTWAM OF TWACHA

Pruthvi: Shape of twak and loma Aap: Ras and Lymh, Tej: skin colour and glow, Vayu: Touch Sensation (skin in sense organ having dominance of Vayu), Aakash: Lomkupas (hair pits) and opening of sweat glands.

TWAK SARA (RASASARA)

Acharya kashyapa has plainly referenced thar as rasa dhatu feeds twak, twak sara lakshanas are same as rasa sara. Skin of twak sara individual Portrayed by reflexive, smooth, delicate, clear, fine, less various, well established, and delicate hairs and such individual is invested with joy, favorable circumstances, power, happiness, mind, information, wellbeing, fervor, and life span. Acharya kashyapa referenced two characters like sadykshat prarohartva (skin recuperates prior) and twakrograhit (solid skin)

DISCUSSION

However, the skin is a five organ simultaneously it is in touch with every one of the organs and frameworks of human body the skin speaks with the life forms through the sensory system. flow, and endocrine organs. However, distinction of assesment is seen in texts (ayurved and current), yet both have potential. ayurved and current science depicted types, capabilities, thickness, infections and so forth ayurved samhitas portrayed sicknesses in various layers. Conceptualizing profound review has been finished in above project. This makes sense of different assessments of traditional and present-day message too about skin. its capability, its development, and its construction. 1) Vata prakriti individuals has krishna and aruna tone. Unpleasant textured dry skin attributable to ruksh, laghu, khar properties of vata dosha. 2) Pitta prakriti people have light fair tone. pimples, moles, spots, rankles, moles are normal in pitta individual. 3) Kapha prakriti people has shweta tone, which is corelated with arishtak, kanak, Kamal, kapha individuals have lovely skin without a solitary fix inferable from its Snigdha, accha properties. Solid twak likewise mirrors a decent status of Ojas, as varna bheda is one of the significant elements of Ojas vyapad.

Maturing in the course of degeneration which happens in any living life form with time section. Which incorporates different changes, diminished capacity of faculties, resistance, complexion and so on however maturing is normal it relies on a few variables, skin goes through different changes like dryness, wrinkles, scales, patches, loosing versatility. It tends to be ascribed to hereditary deformities, natural impact, sickness, and an apoptosis. As per ayurveda maturing is known as Jara implies aging significantly. Charak and Sushruta consider that Jara begins when an individual achieves the age of 60 and 70 separately. At this age a few characteristics are found in body components, receptors strength and so on. Wonderful solid skin contributes assortment of variables like dosha balance, level of dosha, age, prakriti, sustenance and so forth dampness supply of nourishment, metabolic exercises, blood dissemination and a lot more factors add to sound skin. Ayurved has a wide assortment to keep up with sound skin like ojavardhan, vyadhishaman, Rasayan, yoga

practice, adjusted diet. way of life, occasional routine, psychological well-being are a few elements which controls maturing

CONCLUSION

Skin is most valuable part or organ of body which play pivotal part in one's character. To keep balance or to keep up with sound skin everybody should go through skins life structures and physiology. Physiologically Dosha, dhatu, mala together structure the premise of the body. All the three dosha are available in the skin and carry out the different physiological roles ie., tangible, metabolic changes and sweat emission and so on. Different prakriti types likewise having various highlights of skin. Maturing of skin is one of most early indications of oldness. Ayurved makes sense of well for keep up with skin wellbeing with various modalities for sound maturing in above scholarly exploration useful, underlying, physiological parts of skin as per old style text and current texts were considered.

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