

A REVIEW ARTICLE ON TWACHA SHARIR (SKIN): AYURVEDIC AND MODERN ASPECT**Dr. Shankar Lal Verma^{*1}, Dr. Anju Vashisth², Dr. Jitendra Kumar Sharma³, Dr. P. D. Sharma⁴, Dr. Dinesh Kumar Sharma⁵ and Dr. Deepa⁶**^{1,2}PG Scholar Rachana Sharir, M.M.M. Govt. Ayurved College, Udaipur(Raj).³HOD Rachana Sharir Department, M.M.M. Govt. Ayurved College, Udaipur(Raj).⁴Associate Professor, Rachana Sharir Department, M.M.M. Govt. Ayurved College, Udaipur(Raj).^{5,6}Assistant Professor, Rachana Sharir Department, M.M.M. Govt. Ayurved College, Udaipur(Raj).***Corresponding Author: Dr. Shankar Lal Verma**

PG Scholar Rachana Sharir, M.M.M. Govt. Ayurved College, Udaipur(Raj).

Article Received on 07/02/2023

Article Revised on 27/02/2023

Article Accepted on 19/03/2023

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 is 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 Panchamahaabhuta, so the Rachana and Kriya of these organs have been organized 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.**INTRODUCTION**

Acharya Sushruta has mentioned five sensory organs i.e. Gyanendriyas. Sparshanendriya is one of them whose adhishthana 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 updhātu 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 'Garbhānirmati' i.e. 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 Prakriti and Shodsha Vikara is also involved in Garbhānirmāna. Sushruta depicts formation of Twacha from the metabolism 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 skim take place which is explained as 'Ksheerat –Santanika. 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.

AIMS AND OBJECTIVES

1. To study concepts of Twacha Sharir (Skin) described in various Ayurvedic literatures and Modern sciences.
2. To establish importance of Twacha as diagnostic and prognostic tool in clinical aspect Literary Review Etymology of Twacha In Ayurveda skin is stated as Tvak or Twacha.

Synonym of Twacha Twacha, Charma, Sparshan, Chavi, Chadani, Asrugdhara, Kruti, Ajin, Dehacharma, Romabhumi, Shariravarānam, Asrugvara, Shariravarakam Shastram.

Table no 1: Names of Twacha in Different Texts.

S.No.	Charak Samhita ^[5]	Sushruta Samhita ^[6]	AshtangSangrah ^[7]	Sharangdhar ^[8]	Bhavprakash ^[9]
1	Udakdhara	Avabhasini	Udakdhara	Avabhasini	Avabhasini
2	Asrukdhara	Lohita	Asrukdhara	Lohita	Lohita
3	Tirtiya	Shweta	Sidhma, Kilas	Shweta	Shweta
4	Chaturthi	Tamra	Sarv, Kuslth Sambhavadhishthan	Tamra	Tamra
5	Panchami	Vedini	Alaji, Vidradhi Sambhavashishthan	Vedini	Vedini
6	Sashti	Rohini	Pranadhara	Rohini	Rohini
7	----	Mansdhara	-----	Sthoola	Sthoola

The Lists Of Seven Layers Of Skin And Diseases Which Originate From Them Are As Follows

Avabhasini- This is the first outermost and superficial layer of skin. It is responsible for the color and shadows of five types i.e. Prabha. It reflects the complexion and the quality of the Rasa Dhatu(nutrient fluid, the first of the seven tissues of the body). It also acts as a mirror. It indicates whether the physiology as a whole is balanced or imbalanced, and whether there is inner health or disorder. The avabhasini layer also reflects the aura of the individual, if there is inner bliss, it shows on this layer. It does not have its own color. It reflects the colors of the inner layers. Internal and external re-hydration and regular massage supports the health and appearance of the Avabhasini layer of the skin. It is the site of Sidhma(psoriasis), Padmakantaka(pimples, acne), and other diseases. It is approximately 1/18th the size of Vrihi.

Lohita-This is the second layer of skin, and it helps to support the outermost layer. It denotes Rakta Dhatu's qualities (blood). Ama (impurities) in the blood affect the aura of the outer layer and increase sensitivity to the sun. This layer has the appearance of molten iron. It is the location of Tilakalaka, or moles, dark circles, and black pigmentations. It is one-sixteenth of a Vrihi.

Shweta-This is the skin's third layer. This is a white layer that balances the skin's complexion and lightening the darker colours of the inner layers. Charnadala(atopic dermatitis), Ajagallika(eruption or blisters), and Mashakaare all found here (moles). It is approximately one-twelfth the size of vrihi.

Tamra -This is the skin's fourth layer. This layer nourishes the skin's top layers. It strengthens the immune system. This is the layer that assists the skin in performing its function as a "barrier." Skin infections are the result of an imbalance in this layer. It is copper in colour. It is the site of various sorts of skin illness, such as leprosy. It is approximately 1/8th the size of Vrihi.

Vedini -This fifth layer sensually links the skin to the rest of the body. It is the center for transformation of sensation – eg. feeling of pain. It is the seat for Kushtha and Visarpa(herpes). It measures 1/5th part of Vrihi.

Rohini-It is the sixth layer that gives rise to the Roma Kupa. It helps in healing and regeneration. Imbalance in this layer slows healing and causes scars to fade over time. The Rohini layer is supported by a well-balanced, nutritionally dense diet. It is the seat for Granthi(cysts), Apache(scrofulalymphadenopathy), Arbuda (Harborscancer/tumors), Shlipada(elephantiasis) and Galaganda(goiter). It measures about 1 Vrihi.

Mamsadhara- In respect to close contact with mamsa, it is the seventh and deepest layer. It serves as the foundation for the skin's stability and stiffness. When this layer is balanced, the skin appears youthful and supple. A skin care product with a Vayasthapanaaction nourishes this layer, which helps to slow the ageing process. It is the site for Bhagandar(fistulas), Vidradhi(abscess) and Arsha(haemorrhoids). It measures about two Vrihi. Mamsadhatu provides nutrients to the seven layers of skin (muscle tissue). It is also referred to as an Updhatu(secondary tissue product) of the Mamsadhatu (muscle), which arises from Raktadhatu (blood), because it simply resembles the dhatu's perception of the body. It does not perform Poshankarma, i.e. it does not nourish the other dhatus. Skin is a mirror that reflects the attributes of the Raktadhatu (blood) and the Rasadhatu(body's plasma tissue) because it is an Upadhatu of the Mamsadhatu that emerges from Raktadhatu. As a result, it is a prevalent belief that radiant skin is the result of high-quality rasa and Rakta.

Modern aspect of Skin

Layers of skin

Modern texts have classified the skin into two main parts:

1. The superficial, thinner portion, which is composed of epithelial tissue, is the Epidermis.
2. The deeper, thicker connective tissue portion is the Dermis.

The Epidermis is avascular and the Dermis is vascular, that's why, by cutting the layer of epidermis there is no bleeding, but if we cut the dermis there is bleeding.

Deep to dermis, but not part of skin, is the subcutaneous layer, known as the Hypodermis. This layer consists of areolar and adipose tissues.

The Epidermis is further grouped into five layers:

1. Stratum Corneum or Horny Layer
2. Stratum Lucidum
3. Stratum Granulosum
4. Stratum Spinosum or Malpighian Layer
5. Stratum Basale or Germinative Layer

The Dermis is further divided into two regions:

- I. Papillary region
- II. Reticular region

Functions of skin

1. Thermoregulation: The skin contributes to regulation in two ways: by liberating sweat at its surface and by adjusting the flow of blood in the dermis. In response to high temperature, sweat production from eccrine sweat glands increases; the evaporation of sweat from the surface of skin helps to lower the body temperature.
2. Blood Reservoir: The dermis houses an extensive network of blood vessels that carry 8-10% of the total blood flow in a resting adult. For this reason, the skin acts as a blood reservoir.
3. Protection: The skin protects the body in various ways. Keratin protects underlying tissues from microbes, abrasion, heat and chemicals. Lipids released from the lamellar granules inhibit evaporation of water from skin surface. The oily sebum from the sebaceous glands keeps hair and skin from drying out and contains bactericidal chemicals.
4. Cutaneous sensations: These sensations arise in the skin such as touch, pain, pressure, vibration, tickling and thermal sensations like warmth and coolness.
5. Excretion and absorption: Despite the waterproof nature stratum corneum, about 400mL of water evaporates through skin daily. Fat soluble vitamins (A,D,E,K), certain drugs and few gases do enter and exit the skin.
6. Synthesis of Vitamin D: Synthesis of vitamin D requires activation of precursor molecules in the skin by U.V rays in sunlight. Enzymes in the liver and kidney modify the activated molecule, producing calcitriol, the most active form of Vitamin D.

Correlation of Layers of Twacha

The details regarding the layers of skin according to Ayurveda and Modern science is still confusing. But the correlation of Ayurvedokta Twacha Stara with modern sciences as per mentioned by Ghanekar, the commentator of Sushruta Samhita.

Shareersthana, which is as follows:

- Avabhasini- Stratum corneum
- Lohita- Stratum Lucidum
- Shveta- Stratum Granulosum
- Tamra- Malpighian Layer
- Vedini- Papillary Layer
- Rohini- Reticular Layer
- Mamsadhara- Subcutaneous tissue

MATERIAL AND METHODS

Review work done and various literature has been collected from Charaka samhita, susruta samhita and vagbhata Samhita and Modern literature and contemporary texts including websites will be reviewed. Several Research works were also reviewed for this discussion purpose.

DISCUSSION

The outer most layer, Avabhasini, is responsible for pigmentation and the five forms of shadows, i.e. Prabha, and it is the location of psoriasis, pimples, and acne. It corresponds with the Horn layer of the epidermis. Lohita is the second layer that supports the outer most layer and is the location of moles, dark, circles, and black pigmentation. It corresponds with the Stratum Lucidum layer of the epidermis. Atopic dermatitis, boils or blisters, moles, and the connection between the third layer, Shweta, and the Stratum Granulosum layer of the epidermis are all found here. This layer also balances skin colour. Leprosy develops in the fourth layer Tamra, which connects to the dermis's Malpighian layer and supports the immune system. Leprosy and herpes are located in the fifth layer Vedini, which corresponds to the Papillary layer of the dermis. It is a centre for sensation transformation. The dermal Reticular layer links with the sixth layer, or Rohini, which promotes healing and regeneration and is the site of goitres, elephantiasis, cancer, tumours, scrofula/lymphadenopathy, cysts, and lymphadenopathies. Mamsadhara, the seventh innermost layer, correlates with subcutaneous tissue and muscles and serves as the basis for the stability and hardness of the skin. It is also the location of fistulas, abscesses, and haemorrhoids. Touch is perceived by Vatadosha through the skin. The skin is coloured with bhrajakapitta.

CONCLUSION

A well-established concept of Twacha (skin) in medical science was offered by this thorough examination of Twacha Sharir in both Ayurvedic and Modern sciences. Knowing the Twacha's regular anatomy, or rachna, is crucial to understand its vikriti. Therefore, in medical research, a thorough study of Twacha according to Ayurveda in Rachnatmaka aspect as well as Modern ideas is required for better diagnosis.

REFERENCE

1. Gupta GK (Ed.). Ayurvediya Kriya Sharir Vigyan. Meerut: Utkarsha Prakashan, 2016. 110p.
2. Shastri RD, Upadhyaya YN, Pandey GS, (Eds.). Charak Samhita, Part 1, Sutrasthana, Chapter 8, Verse 08. Varanasi: Chaukhambha Bharti Academy, 2003.
3. Gupta GK (Ed.). Aadhunika Kriya Sharir Vigyan. Meerut: Utkarsha Prakashan, 2018. 80p.

4. Shastri VSLP. Ayurvedacharya, Yogaratnakar elaborated Vidyotini, Hindi commentary. Varanasi: Chaukhambha Bharati Academy, 2015. 5p.
5. Shastri RD, Upadhyaya Y, Pandey GS, (Eds.). Charak Samhita, Part I, Sharira sthana, Chapter 07, Verse 04. Varanasi: Chaukhambha Bharti Academy, 2003.
Gupta GK (Ed.). Ayurvediya Kriya Sharir Vigyan. Meerut: Utkarsha Prakashan, 2016. 132p.
6. Sharma SP (Ed.). Astang Sangrah with Indu commentary Shashilekha, Chapter 5, Reprinted edition. Varanasi: Chowkhambha Sanskrit Series, 2006. 24–9p.
7. Tripathi BN (Ed.). Sharangdhar, Samhita Dipika reprinted edition Sharangadhar purvakhand ch 5. Varanasi: Choukhamha Surbharti Prakashan, 2010. 37–59p.
8. Mishra BS (Ed. hindi commentary). Bhavprakash purvakhand vidyotini, Eleventh Edition, Garbha Prakaran Ch. 3. Varanasi: Sanskrit Bhavan, 2010. 279–384p.