



Research Paper

The Study of Tvacha In Rachana Sharir According To Ayurveda: A Review

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ABSTRACT

The skin indeed plays crucial roles in protecting the body from external factors, regulating temperature, and facilitating sensory experiences. Ayurveda's perspective on the skin, or "Twacha," is fascinating. Associating it with the elements of Prithvi (earth) and Vayu (air) highlights its connection with stability and movement, respectively, according to Ayurvedic principles. Understanding the skin through the lens of these elemental compositions allows for a holistic approach to skincare and health. Exploring Ayurvedic principles concerning skin care could provide insights into maintaining skin health and addressing various dermatological concerns. It's intriguing how ancient traditions like Ayurveda continue to offer valuable perspectives on wellness, often complementing modern medical practices.

KEYWORDS: Twacha, Skin.

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I. INTRODUCTION

The intricate descriptions of Twacha in Ayurveda, particularly in the works of Acharya Sushruta, offer profound insights into its formation, functions, and significance. The association of Twacha with Sparshanendriya underscores its role as a sensory organ responsible for perceiving touch, pain, pressure, and temperature. Understanding Twacha as an updhātu of mamsadhātu emphasizes its close relationship with muscle tissue, highlighting the interconnectedness of bodily systems in Ayurveda[1]. Moreover, its classification as one of the five gyanendriyas underscores its importance in sensory perception[2]. The concept of Twachauttapati, Twachastara, and related skin disorders reflects Ayurveda's comprehensive approach to diagnosing and treating dermatological conditions. By considering the formation and development of Twacha during Garbhanirmati, Ayurveda offers insights into prenatal health and the significance of maternal well-being during pregnancy. Comparing the formation of Twacha to the formation of a creamy layer over boiled milk or the arrangement of layers in a banana stem illustrates complex physiological processes in relatable terms[3]. These analogies aid in understanding the structural complexity and organization of the skin layers. Overall, Ayurvedic perspectives on Twacha provide a holistic framework for understanding skin health, sensory perception, and the interconnectedness of bodily functions. Integrating these insights into modern medical practices could offer valuable approaches to skincare and dermatological care.

Synonym of Twacha

1. **Tvacha:** This is the Sanskrit term for "skin," referring to the outer covering of the body that protects it from external elements and houses sensory receptors.
2. **Charma:** Another term for "skin," often used interchangeably with "Twacha."
3. **Sparshan:** Refers to the sense of touch, which is facilitated by the skin's sensory receptors.
4. **Chavi:** Translates to "form" or "appearance," possibly indicating the visual characteristics or appearance of the skin.
5. **Chadani:** This term is not commonly encountered. It may have a specific context within Ayurveda or other traditional systems of medicine.

6. **Asrugdhara:** Literally means "tear-bearing" or "tear-carrying." This could relate to the function of the skin in producing sweat or tears.
7. **Kruti:** Means "structure" or "form." It might refer to the physical structure or organization of the skin tissue.
8. **Ajin:** Translates to "hide" or "skin," often used in the context of animal hides.
9. **Dehacharma:** "Deha" means body, and "charma" means skin, so "Dehacharma" refers to the skin of the body.
10. **Romabhumi:** "Roma" typically means hair, so "Romabhumi" could refer to the region where hair grows on the skin.
11. **Shariravaranam:** This term is not commonly encountered. It may have a specific context within Ayurveda or other traditional systems of medicine.
12. **Asrugvara:** "Asru" means tears, and "gvara" could refer to carrying or containing. So, "Asrugvara" may refer to the ability of the skin to contain or excrete tears.
13. **Shariravarakam Shastram:** This phrase translates to "science of the body's protective covering," which encompasses the study of skin and related structures.

Names of Twacha in Different Texts:

| S.No. | Charak Samhita[4] | Sushruta Samhita[5] | AshtangSangrah[6] | Sharangdhar[7] | Bhavprakash[8] |
|-------|-------------------|---------------------|-----------------------------------|----------------|----------------|
| 1 | Udakdhara | Avabhasini | Udakdhara | Avabhasini | Avabhasini |
| 2 | Asrukdhara | Lohita | Asrukdhara | Lohita | Lohita |
| 3 | Tirtiya | Shweta | Sidhma, Kilas | Shweta | Shweta |
| 4 | Chaturthi | Tamra | Sarv, Kushth 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

Understanding of the layers of the skin according to Ayurveda, including their characteristics, functions, and associated disorders. Let's summarize the information:

1. **Avabhasini:** This outermost layer reflects the aura of an individual and indicates inner health or disorder. It doesn't have its own color but reflects the colors of inner layers. It's the site of skin disorders like psoriasis and acne.
2. **Lohita:** The second layer supports the outermost layer and reflects the qualities of Rakta Dhatu (blood). It's associated with moles, dark circles, and black pigmentations.
3. **Shweta:** This layer balances skin complexion and lightens darker colors of inner layers. It's associated with conditions like atopic dermatitis and moles.
4. **Tamra:** Nourishes the skin's top layers, strengthens the immune system, and acts as a barrier. Imbalance in this layer can lead to skin infections. It's associated with diseases like leprosy.
5. **Vedini:** Links the skin to the rest of the body and is responsible for the sensation of pain. It's associated with conditions like herpes and measures about 1/5th part of Vrihi.
6. **Rohini:** Helps in healing and regeneration of the skin. Imbalance in this layer can cause scars to fade slowly. It's associated with conditions like cysts and cancer and measures about 1 Vrihi.
7. **Mamsadhara:** The deepest layer, providing stability and stiffness to the skin. It's associated with conditions like fistulas and hemorrhoids and measures about two Vrihi.

Understanding these layers and their characteristics can provide valuable insights into skincare and the prevention or management of various skin conditions. Ayurveda emphasizes the interconnectedness of the body's systems and the importance of maintaining balance for overall health and well-being.

Modern aspect of Skin

Layers of skin

Modern anatomical understanding indeed categorizes the skin into distinct layers, providing a structural framework for comprehending its composition and functions:

1. **Epidermis:** This is the outermost layer of the skin, consisting primarily of epithelial tissue. It acts as a protective barrier against environmental factors, pathogens, and UV radiation. The epidermis is avascular, meaning it lacks blood vessels, and it regenerates continuously through cell turnover.
2. **Dermis:** Situated beneath the epidermis, the dermis is a deeper layer composed mainly of connective tissue. It provides structural support to the skin and contains blood vessels, nerves, hair follicles, sweat glands, and sebaceous glands. The dermis is responsible for supplying nutrients and oxygen to the epidermis and regulating temperature through its blood vessels.

3. Hypodermis: Also known as the subcutaneous layer, the hypodermis lies beneath the dermis but is not technically considered part of the skin. It primarily consists of areolar and adipose tissues, providing insulation, cushioning, and energy storage. The hypodermis also houses larger blood vessels and nerves that supply the skin and underlying tissues.

Understanding the distinct characteristics and functions of each skin layer is crucial for diagnosing and treating various dermatological conditions, as well as for cosmetic and reconstructive procedures. The hierarchical organization of the skin into these layers reflects its complexity and dynamic nature, supporting its vital roles in protecting the body and maintaining homeostasis.

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

The skin's multifaceted roles in maintaining homeostasis and protecting the body are crucial for overall health and well-being. Let's break down each of these functions:

1. **Thermoregulator:** Through sweat production and adjustments in blood flow, the skin helps regulate body temperature. Sweat evaporating from the skin surface cools the body, while changes in blood flow in the dermis can release or conserve heat as needed.
2. **Blood reservoir:** The extensive network of blood vessels in the dermis allows the skin to serve as a reservoir for blood, holding a significant portion of the body's blood flow at rest. This capacity helps regulate blood pressure and ensures adequate circulation throughout the body.
3. **Protection:** The skin provides a physical barrier against microbial invasion, abrasion, heat, and chemicals. Keratin, lipids, and sebum play key roles in protecting underlying tissues and maintaining skin integrity.
4. **Cutaneous Sensation:** The skin is rich in sensory receptors that detect touch, pain, pressure, vibration, and temperature. These sensations provide valuable information about the external environment and help guide behavior and responses.
5. **Excretion & Absorption:** Despite its waterproof nature, the skin allows for some excretion of water and absorption of substances like fat-soluble vitamins, certain drugs, and gases. This exchange contributes to overall metabolic balance and homeostasis.
6. **Synthesis of Vitamin D:** Sunlight exposure triggers the synthesis of vitamin D precursors in the skin, which are then converted into active vitamin D (calcitriol) by enzymes in the liver and kidneys. Vitamin D plays essential roles in calcium metabolism, bone health, and immune function.

Understanding these diverse functions underscores the skin's vital importance in maintaining overall health and functioning. Proper skincare practices and protection against environmental stressors are essential for preserving these functions and promoting skin health.

Correlation of Layers of Twacha

Understanding the correlation between Ayurvedic concepts and modern anatomical layers can indeed be complex, but there are attempts to bridge these perspectives. Ghanekar's commentary on the Sushruta Samhita offers one such attempt to align Ayurvedic descriptions with modern anatomical understanding.

1. **Avabhasini** (Ayurveda) Correlated with **Stratum Corneum** (Modern Science): Avabhasini, the outermost layer in Ayurveda, is likened to the stratum corneum, the outermost layer of the epidermis in modern science. Both serve as protective barriers, preventing the entry of pathogens and regulating moisture loss from the skin.
2. **Lohita** (Ayurveda) Correlated with **Stratum Lucidum** (Modern Science): Lohita, the second layer in Ayurveda, is correlated with the stratum lucidum, a thin, translucent layer found only in thick skin regions like the palms and soles. This correlation suggests similarities in their structural characteristics.
3. **Shveta** (Ayurveda) Correlated **Stratum Granulosum** (Modern Science): with Shveta, the third layer in Ayurveda, is correlated with the stratum granulosum, which is involved in the production of keratin and the formation of the skin barrier. This correlation highlights their roles in skin integrity and barrier function.
4. **Tamra** (Ayurveda) Correlated with **Malpighian Layer** (Modern Science): Tamra, the fourth layer in Ayurveda, is correlated with the malpighian layer, also known as the stratum basale or stratum germinativum. This layer is responsible for cell proliferation and the production of new skin cells.

5. **Vedini** (Ayurveda) Correlated with **Papillary Layer** (Modern Science): Vedini, the fifth layer in Ayurveda, is correlated with the papillary layer of the dermis. This layer contains blood vessels, nerve endings, and sensory receptors, contributing to cutaneous sensations and nutrient exchange.
6. **Rohini** (Ayurveda) Correlated with **Reticular Layer** (Modern Science): Rohini, the sixth layer in Ayurveda, is correlated with the reticular layer of the dermis. This deeper layer provides structural support, strength, and elasticity to the skin.
7. **Mamsadhara** (Ayurveda) Correlated with **Subcutaneous Tissue** (Modern Science): Mamsadhara, the seventh and deepest layer in Ayurveda, is correlated with the subcutaneous tissue, also known as the hypodermis. This layer provides insulation, cushioning, and energy storage, while also supporting the structures above it.

This correlation attempts to reconcile Ayurvedic descriptions with modern anatomical terminology, offering insights into the functional and structural aspects of the skin from both perspectives.

II. DISCUSSION

The layers of the skin according to Ayurvedic understanding, each layer is associated with different functions and conditions, reflecting a holistic perspective on skin health.

1. **Avabhasini**: This is the outermost layer responsible for pigmentation and various skin conditions like psoriasis, pimples, and acne. It corresponds with the *Horne* layer of the epidermis.
2. **Lohita**: The second layer that supports Avabhasini and is associated with moles, dark circles, and black pigmentation. It corresponds with the *Stratum Lucidum* layer of the epidermis.
3. **Shweta**: Located beneath Lohita, it's associated with atopic dermatitis, boils or blisters, moles, and connections to the *Stratum Granulosum* layer of the epidermis. It also plays a role in balancing skin color.
4. **Tamra**: This layer, deeper than Shweta, is where leprosy develops. It connects to the dermis's Malpighian layer and supports the immune system.
5. **Vedini**: Leprosy and herpes are located in this layer, which corresponds to the Papillary layer of the dermis. It's involved in sensation transformation.
6. **Rohini**: This layer links with the dermal Reticular layer and promotes healing and regeneration. It's associated with various conditions like goiters, elephantiasis, cancer, tumors, scrofula/lymphadenopathy, cysts, and lymphadenopathies.
7. **Mamsadhara**: The innermost layer correlates with subcutaneous tissue and muscles, providing stability and hardness to the skin. It's associated with conditions like fistulas, abscesses, and hemorrhoids. Touch perception is attributed to Vata dosha through the skin, and skin color is influenced by bhrajakapitta. This holistic view of the skin integrates both physical and metaphysical aspects, offering a comprehensive understanding of skin health in Ayurveda.

III. CONCLUSION

Understanding the structure and function of the skin, or Twacha, is essential for diagnosing and treating various dermatological conditions effectively. Integrating insights from both Ayurvedic and modern medical perspectives can provide a comprehensive understanding of Twacha Sharir, facilitating better diagnosis and management of skin disorders. By examining Twacha according to Ayurveda in its *Rachnatmaka* (structural) aspect, researchers can delve into ancient texts like the *Sushruta Samhita* to uncover detailed descriptions of the layers, functions, and pathology of the skin. These insights offer valuable perspectives on skin health and disease from an Ayurvedic viewpoint, including the interplay of doshas (bioenergies), dhatus (tissues), and malas (waste products) in maintaining skin equilibrium. Simultaneously, incorporating modern scientific knowledge of skin anatomy, physiology, and pathology enhances our understanding of Twacha at the cellular and molecular levels. This includes insights into the roles of various cell types, proteins, hormones, and signaling pathways in skin function, regeneration, and response to injury or disease. By synthesizing information from both traditional Ayurvedic texts and contemporary medical research, clinicians and researchers can gain a deeper appreciation of Twacha's complexity and develop more holistic approaches to skin care and treatment. This interdisciplinary approach enables the integration of ancient wisdom with modern advancements, ultimately benefiting patient care and promoting skin health and well-being.

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