

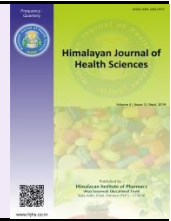


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Review Article

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Twak Sharir Ayurveda and Modern Consideration: a review w.s.r. to Anatomical perspectives

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Abstract

The sensory organs (*Dnyanendriyas*) are important parts of body, which receives senses and responds accordingly. *Twak*, *Nasa*, *Akshi*, *Jivha* and *Karna* are important sense organs, amongst them *Twak* (skin) is considered as organ of prime importance since it performs many functions and receive sensation *via Sparsh*. *Twacha* (skin) covers body, maintain body structure, contributed towards appearance, resist effects of climatic changes and protect body from external shock. *Swedvahi strotas*, *Loma* and *Lomkupas*, etc. are major parts of *Twacha*. It is described as largest organ of body and covers whole body frame work. Ayurveda described various layers of skin including *Avabhasini*, *Lohita*, *Shweta*, *Tamra*, *Vedini*, *Rohini* and *Mansadhara*. These layers performs specific functions and resembles particular types of diseases if get affected by pathological factors. Acne, psoriasis, leprosy, vitiligo, allergy and hyper pigmentation, etc. are diseases associated with various layers of skin. This article elaborated anatomical perspective of skin.

Keywords: Ayurveda, Twacha, Skin, Twak Sharir, Sparsh

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1. Introduction

Ayurveda encompasses many branches related to the health and disease of human being and *Sharir Rachna* is one such department of Ayurveda which deals with the anatomical perspective of body. This branch described importance and compositions and different body parts, in this connections the Ayurveda anatomy presented structural and functional role of skin which termed as *Twak* (*Twacha*) in Ayurveda.

The skin is considered as protective layer which is outermost covering of body. It is the largest sensory organ containing many layers, these layers performs specific functions and responsible for particular types of pathological conditions. (1-4)

Skin performs many functions, it perceive touch sensation and responds, covers whole body, protect from the external shock, maintain thermostat of body, regulates circulatory process of body, *Swedvahi strotas*

helps in sweating thus maintain body temperature, provides nourishment to the hair, helps in detoxification process, maintain rigidity and integrity of body.

Twacha is predominant with *Vayu mahabhut* since it is *Upadhatu* of *Mansa*, *Lomkupas* is related with *Akashans* and *Sparsh* sensation is associated with *Vyan Vayu*. *Bhrajak pitta* provides luster and color to the skin, while excess aggravation of *Vayu* is responsible for dark coloration and whiteness of skin is related with excess of *Kapha Dosha*. Skin is related with *Sweda* (sweat) which is considered as *Mala* of skin and excretion of *Sweda* through *Twacha* contributed towards the detoxification of body. (4-6)

2. Structural Perspectives

Skin contains many elements like carotene and melanin, etc. The formation of skin occurs during “*Garbhanirmati*” and quality of *Shukra* & *Shonita* decides quality of skin. The metabolism of *Shukra* &

Shonita triggers process of formation of skin. The skin formed in several layers as mentioned follows:

Skin Layers:

- ❖ *Avabhasini*
- ❖ *Lohita*
- ❖ *Shweta*
- ❖ *Tamra*
- ❖ *Vedini*
- ❖ *Rohini*
- ❖ *Mansadhara*

Avabhasini:

It is first and outermost layer of skin helps to holds *Udakdhatu*, carries *Udaka dhatu* and maintain *Aradrata bhava*.

Lohita:

It is second layer that resides beneath the *Avabhasini*, resist outflow of *Rakta dhatu*, helps to holds body fluids.

Shweta:

It is described as third layer of skin which is *Shweta varniya* in appearance and lies just below the *Lohita*. The granular cells formed *Shweta*.

Tamra:

Tamra is considered as fourth layer of skin, which lies just beneath the *Shweta* and can be correlated with *Stratum Malphigi* as per the modern science.

Vedini:

Vedini is fifth layer of skin; consisted of corpuscles and nerve endings, due to the presence of nerve ending this layer becomes sensitive to the heat and cold sensation.

Rohini:

Rohini is sixth layer of skin, lies beneath the *Vedini* and can be correlated with reticular layer of dermis according to the modern science. This layer facilitates granulation process thus helps in healing and regeneration process.

Mansadhara:

This is considered as seventh layer of skin; however its existence is controversial according to the some literature of Ayurveda. (5-7)

3. Modern View

The modern science also described skin as one of the vital organ of body which performs many functions and possess structural significance. Similar to the Ayurveda science modern science also mentioned various layers of skin as depicted in **Figure 1**, these layers are responsible for specific structural and functional role inside the body.

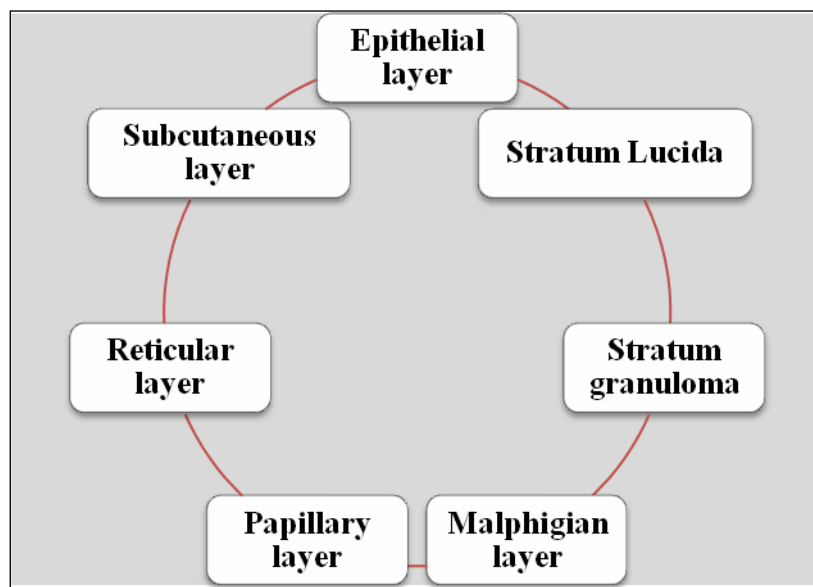


Figure 1. Various Layers of Skin

As mentioned in above Figure these are the layers and sub-layers of skin, however modern science mainly described three major layers of skin; Epidermis, Dermis and Hypodermis.

a) Epidermis

The epidermis is outermost layer of skin; that provides waterproof barrier and maintain tonicity of skin. The epidermis is consists of 3 types of cells namely Squamous cells, Basal cells and Melanocytes.

- Squamous cells are outermost layer of stratum corneum.
- Basal cells lies beneath the squamous cells.
- Melanocytes found at the base of epidermis and forms melanin.

b) Dermis

The dermis lies beneath the epidermis and contains connective tissue, sweat glands and hair follicles, etc. The dermis is middle layer of skin that contains blood

vessels, lymph vessels, hair follicles, sweat glands, collagen bundles, fibroblasts and nerves, etc.

c) Hypodermis

The hypodermis is deeper subcutaneous tissue that is made of fat. The hypodermis is subcutaneous layer located at deep inside as fat layer of skin, it contains collagen and fat cells. This layer helps to conserve body's heat and acts as shock absorber thus protect body from the external shock. (1,8)

Skin and Doshas

- ✓ *Twacha* is *Vata* & *Pitta* predominant.
- ✓ *Vata-Vridhhi* leads hyper pigmentation
- ✓ *Pitta Vridhhi* may causes discoloration
- ✓ *Pitta Kshaya* resembles loss of glory of skin
- ✓ *Kapha Vridhhi* leads skin whiteness.
- ✓ *Kapha Kshaya* causes dryness of skin

Skin Layers and Related Diseases

- ✚ *Sidhma* and *Padmakantak* are disease associated with epithelial layer.
- ✚ *Tilkalak* and *Vyang* are related with stratum lucida.
- ✚ *Charma dala* is disease mainly relates with stratum granuloma.
- ✚ *Kilas* and *Kushta* are associated with malphigian layer.
- ✚ *Visarp* is related with papillary layer.
- ✚ *Vidradhi* and *Arsha* are pathological conditions associated with subcutaneous layer.

4. Conclusion

Ayurveda as well as modern texts described physiological and anatomical importance of skin. Skin protects organs, resists external shock, provides luster and colour, cover whole body and maintain body temperature. Ayurveda described various layers of skin including *Avabhasini*, *Lohita*, *Shweta*, *Tamra*, *Vedini*, *Rohini* and *Mansadhara*. Modern science described three major layers of skin; epidermis, dermis and hypodermis. These all layers performs specific role inside the body and responsible for various physiological functioning. *Sidhma*, *Tilkalak*, *Kilas* and *Kushta*, etc. are major diseases associated with various layers of skin.

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Conflict of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

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