

CONCEPTUAL STUDY OF TWAK SHARIR: AYURVEDIC REVIEW

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ABSTRACT

In Ayurveda, Twacha is described as outermost covering and protective layer of the body. Twacha is the Adhishtana of Sparshanendriya. Ayurveda describes six or seven distinct layers of the skin, each with its own structure and function. Twak is a reflector of the total health and well-being of an individual. Twak/ Twacha or Skin is the largest organ of the body which covers the whole body. Structurally it has got many layers according to Ayurved and Modern Science. The study of skin, the science of dermatology, has undergone significant transformations throughout the centuries. Dermatology is the medical specialty responsible for the study of more than 4,000 diseases of skin and cutaneous adnexae, accounting for 15% to 30% of outpatient medical care in health systems. It is believed that each and every components of skin having anatomical as well as physiological importance. Therefore any anatomical or physiological abnormalities in skin or related organs may leads various disorders with Skin

Manifestation. Therefore present paper is an effort made to compile and analyse the knowledge present in Ayurvedic classics about 'Twak Sharir'.

INTRODUCTION

Ayurveda, the world's utmost ancient science of life, focuses on preventing disease, along with treating it. Skin is outermost covering of the body. Its function as antimicrobial and

chemical barrier, and protects body from a number of external hazards. In Ayurveda, skin diseases are described in various texts. Twak, the human skin is the outermost covering of the body and largest organ in both surface area and weight.^[1] Acharya Charaka describes Twacha is the Mula of Mamsavaha Srotas and Upadhatu of Mamsa Dhatu.^[2] is the adhishtana of Sparshanendriya as it carries the sensation of touch because of Vayu Mahabhuta. It covers the external part of body including the sense organs. Twak is *Matruja* organ and still it is generated as the Sparshanendriya from Atmajaya bhava. Ayurveda describes six or seven distinct layers of the skin. The layers are designed in such a way that each one supports the layer above it. Each with its own structure and function. Twacha is derived from “Twach Samvarane” Dhatu meaning the covering of the body. Synonyms for Twak, Twacha, Charma, Sparshan, Sparshanendriya etc. Sushruta has stated that the Thickness of Twacha is different in different sites of body as in mamsalsthaana and Lalaat the twacha pramaan varies.^[3] Modern science also stated the same concept that skin is thickest on palms and soles of feet while thinnest on eyelids and in Post Auricular Region.^[4] Acharya Yogratnakar has included twak pariksha in Ashthvidh Pariksha. To study skin with respect to Rachana & Kriya is important to deal with all such factors helpful for diseases and its management. Twak i.e. skin is site of many rogas of one want to cure or understand the disease one has to understand the Rachana and Kriya Sharir i.e. Anatomy and Physiology of skin. Almost each roga has its one or many lakshanas having vyaktisthanas. To know the vikriti first one should know the prakriti. Skin is the vital body part and sensory organ too. In modern times, the physicians are challenged with many novel diseases, as well as with novel forms of old disease so as to understand and explore that present article aims to enlighten about the ayurvedic aspects of skin.

Twacha Utpatti

In Different Samhita Acharyas have different views regarding the development of Twacha. They already had explained various concepts regarding the utpatti of Twak. In Ayurvedic texts, it is stated that the Development of Twacha occurs in Tritiya masa (third month) of intrauterine Life.^[5] Acharya Vagbhata described Twak utpatti due to the paka of Rakta Dhatu by its dhatvagni in the foetus. After paka, it dries up to form Twacha, just like the deposition of cream over the surface of boiled milk.^[6] According to Acharya Sushruta, fertilization of sperm and ovum, union of Shukra and Shonita during the Garbhanirmaana Kala, development takes place and consequently seven layers of Twak comes into existence like those of cream over the surface of milk. Santanika(cream) developed on Ksheer(Milk) after heating. Here

analogy of cream and milk is given to explain the Entire concept of formation of skin.^[7] As per Charaka, Twak is also generated during Third month as it is Dnyanendriya Acharya Charaka states that Development of the Twacha results from The Shukra Shonita Sanyoga and the formation of all Sapta Dhatu.^[8] In Modern texts, it is stated that the development of skin starts at about Fourth week after the fertilization.^[9]

Layers of twak According to Different Acharyas

Layer	Charak ^[10]	Vagbhat ^[11]	Sushrut ^[12]	Arundata	Sharangdhar	Bhavprakash	Modern
1	Udakdhara	Udak dhara	Avbhasini	Bhashini	Avbhashini	Avbhashini	Stratum Basale
2	Asrugdhara	Asrug dhara	Lohita	Lohita	Lohita	Lohita	Stratum spinosum
3	Sidhma, Kilasa Sambhavadhishthana	3rd	Shweta	Shweta	Shweta	Shweta	Stratum granulosum
4	Alaji, Vidradhi Sambhavadhishthana	4th	Tamra	Tamra	Tamra	Tamra	Stratum lucidum
5	Dadru, Kushta Sambhavadhishthana	5th	Vedini	Vedini	Vedini	Vedini	Stratum corneum
6	If this layer is injured, leads to Andhatwa & Tamapravesha leads to Andhatwa & Tamapravesha	Prandhara	Rohini	Rohini	Rohini	Rohini	Dermis Papillary & reticular layer
7			Mams dhara	Mams dhara	Sthula	Sthula	Hypodermis subcutaneous layer

Twaka bheda according to sushruta ^[12]				
Bheda Name acc. To Sushruta	Measurement acc.to Sushruta	Diseases associated	Names acc. To Charak	Diseases associated
Avabhasini	1/18 th part of breehi	Sidhma, padmakantaka	Udakadhara	-----
Lohita	1/16 th part of breehi	Tilkalaka, nyaccha, vyanga	Asrigdhara	-----
Shweta	1/12 th part of breehi	Charmadala, ajgallika, mashaka	Tritiya	Sidhma, kilasa
Tamra	1/8 th part of breehi	Kilasa, kushtha	Chaturthi	Dadru, kushtha
Vedini	1/5 th part of breehi	Kushtha, visarpa	Panchami	Alaji, vidradhi
Rohini	Equal to 1 breehi	Granthi, apachi, arbuda, Galganda, shleepada	Shashthi	Tama, pravishti, arunshika
Mamsadhara	2 breehi	Arsh, bhagandara, vidradhi	-----	

Skin layers according to modern medicine			
S. No.	EPIDERMIS	CELLS	SPECIAL FEATURES
1.	Stratum Corneum (Horny layer)	Corneocytes Stratified epithelial cells	Fibrous protein keratin is present
2.	Stratum lucidum	Flattened epithelial cells	Eleidin (precursor of keratin) is present
3.	Stratum granulosum	Rhomboidal shape cells, 3 cell layered	Keratohyalin is present in shape of granules
4.	Stratum spinosum	Several layers (3-5) thick cells have spine like processes/ projections	Some melanocytes
5.	Stratum germinatum/ basale	Polygonal cells-superficially Columnar or cuboidal Epithelial cells- deep	Keratinocytes Melanocytes.

Panchbhautikatwa (5 basic elements)

Prithvi: Shape of Twak and Loma

Aap: Rasa and Lymph

Tej: Skin colour and glow

Vayu: Touch Sensation (skin is sense organ having dominance of Vayu)

Aakash: Lomkupas (hair pits) and opening of sweat glands.

Relation with Tridosha

Vata :- It is Vata that is key factor in any type of sparsh gyan (sensory knowledge). It is vyaan Vata^[13] that is specially located in the Twak and is responsible for carrying information from Twak to Mana and same is carried to soul by prana vata.^[14] In modern physiology we find that a variety of sensory receptors are found in skin e.g., free nerve endings for pain, all these receptors act like transducers that convert various form of energy (stimuli) into action potentials in nerve fibres. Different neurons carry these sensory information from sensory receptor to spinal cord, spinal cord to cerebral cortex.

Pitta:- Twak is considered as site of Pitta dosha also, specially Bhrajak Pitta. Acharya Sushruta was the first Acharya to describe Bhrajaka Pitta and Bhrajaka Agni. Bhrajaka Pitta helps in production of heat in the body, all types of complexions of Twacha and 5 types of Chhaya.^[15] Chhaya or Prabha correlated to circulatory events that takes place in the Asrigdhara layer of the skin. Bhrajak Pitta is responsible for digestion and absorption of substances used in the form of Abhyanga (oil massage therapy), Parisheka (bathing), Avagaha (washing), Lepana (poulticing) etc. It is responsible for glow of one's natural complexion. As per modern physiology melanin, carotene, haemoglobin is responsible for variations in skin

colour. It is present in Epidermis the cells which synthesize melanin by enzyme Tyrosinase, which is in Avabhasini layer of skin.

Kapha keeps adequate moisture in the Twacha by its Snigdhatva, Shlakshanata. A prominent layer of fatty tissue is found below Twak(skin). This adipose tissue is nothing else but Meda Dhatu only. Meda Dhatu is considered as one of sites where Kapha resides. Twak itself is Updhatu of Vasa or Fatty element. Ultimately, we can interpret that Kapha and Meda (adipose) are found below Twak. In condition of Kapha Kshaya, there is dryness in the skin. This rukshata is nothing but decreased/absence of Jala Mahabhoota.

TWAK ACCORDING TO DIFFERENT PRAKRITI

According to Physiological point of view skin is reflection of healthy state, as each prakriti type has its own skin colour.

- 1) Vata prakriti – people has krishna and aruna complexion. Rough scaly dry skin owing to ruksh, laghu, khar properties of vata dosha.^[16]
- 2) Pitta prakriti individuals have light fair complexion. Pimples, moles, freckles, blisters, warts are common in pitta person.^[17]
- 3) Kapha prakriti individuals has shweta complexion, which is correlated with Arishtak, kanak, Kamal. Kapha people have beautiful skin without a single Patch owing to its Snigdh, accha properties.^[18]

Twacha and Mala

Sweda is Mala of Meda Dhatu which is excreted by Twacha. Sweda maintains the lusture and humidity of Skin.^[19]

DISCUSSION

The study of the skin and its diseases has undergone intense transformations throughout its history, providing new knowledge, diagnoses, techniques, theories, classifications, and treatments, which have broadened the speciality's perspectives. Though difference of opinion is observed in texts (ayurved and modern) about skin, and both describe the thickness, pigments and layers of skin. Moreover classical text describes the diseases which occurred in particular layers of skin, but both have potential. Seven layers of Twacha namely; Avabhasini, Lohita, Sweta, Tamra, Vedina, Rohini, & Mamsadhara respectively can be correlated with the Stratum Cornium, Stratum Lucidum, Stratum Granulosum, Stratum Spinosum and Stratum

Basale, Papillary layer of dermis and Reticular layer of Dermis on the basis of similarity of their structural, functional and applied aspect.

CONCLUSION

Skin is regarded as the mirror of an individual's which reflects our emotions and aspect of normal physiology. Skin is the real wealth of the being. Description of Twak in classical texts and modern texts have tremendous similarity regarding numbers, layers etc. There is much more wide area still to be covered. It also acts as a medium for the absorption of various medicines in the form of Abhyanga, Parisheka etc. Physiologically Dosha, Dhatu, Mala together form the basis of the body. All the three Dosha are present in the skin and perform the various physiological functions i.e., sensory, metabolic transformations and sweat secretion etc. Ayurved explains well to maintain skin health with different modalities also with difference in different Prakriti people. Dosha, Dhatu, Malas contribution in skin functions are explored very well.

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