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“REVIEW ON *TWAKA SHAREERA* AND ITS ANATOMICAL CHANGES RELATED TO *TWAKA ROGA* W.S.R. TO *VICHARCHIKA*”

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Abstract –

Ayurveda is one of the most reliable medical sciences. *Ayurveda* has aim for prevention and management of all various disorders. *Acharya Sushruta* is specially honoured for his outstanding study in the *Shareera* i.e. Anatomy. *Twaka Shareera* is very elaborately explained in our classical *ayurveda* text books. We can find description regarding layers of skin in *Brihatrayi* and *Laghutrayi*. *Sushruta* has stated that the aim of describing “*Shareerasthanam*” is to acquire a complete knowledge of the *Shareera*. *Twaka* is explained as one of the *Indriya* which is special seat for *Vata Dosha*. It gives knowledge of *Sparsha*, etc. For the study of every disease important to know the *Kriya Shareera* as well as *Rachana Shareera* of the organ from which it will be easy for the *Nidana* of disease. Here in this review article we need to study the *Twaka Shareera* and its importance, its anatomical changes in *Twaka Roga* i.e. *Vicharchika*.

Keywords – *Twaka Shareera*, Anatomical change, *Twaka Roga*.

Introduction –

Twaka Shareera is very elaborately explained in our classical *ayurveda* text books. We can find description regarding layers of skin in *Brihatrayi* and *Laghutrayi*. *Acharya Sushruta* has mentioned in the *Shareerasthana* about the formation of *Twaka* at the level of embryogenesis and he has given similarity to the formation of cream on the milk¹.

Sushruta has also described Thickness of each layer & several diseases which manifest in different layers of the *Twaka*. Human Skin is known as protective covering of the body. It's soft, strong, waterproof and self-repairing. It is like a large container, without it all our delicate insides would Structurally integumentary system which is most complex structure & highly specialized, hence it is grouped as in the sense organ. Skin is most extensive organ system has included accessory structures, including hair, nails, glands, and specialized nerve receptors for stimuli such as touch, cold, heat, pain, and pressure².

Functions of Skin includes prevention from microorganisms, protection of structures under skin, regulation of temperature, pigmentary protection against ultraviolet sun rays, and production of vitamin D. The body stores about half of its fat in the underlying hypodermis³.

All the skin disorders in Ayurveda classified under Mahakushtha and Kshudrakushtha. Vicharchika is one of the Kshudrakushtha which is commonly found in today's practice. The Lakshanas of Vicharchika includes Kandu, Pidika, Shyava, Bahustrava from the Pidika⁴.

Skin diseases like Eczema having a suitable atmosphere specially in the developing countries, because of hectic schedules, industrial & occupational hazards, repeated use of chemical etc. Eczema which is an commonly known as 'Atopic dermatitis', defined as chronic inflammatory skin condition, typically begins in the first few years of life. Therefore, study of *Twaka Shareera* is important to known for the development of skin diseases.

Objectives of the study –

- To review the concept of *Twaka Shareera* according to *Ayurveda*.
- To study the anatomical changes related to *Twaka Roga* w.s.r. to *Vicharchika*.

Methodology –

Review on *Twaka Shareera* –

***Nirukti* of *Twaka* -**

Twaga + *Kwip* = *Twacha*, according to *Amarakosha*, *Twaka Dhatu* meaning is covering.

***Paribhasha* of *Twaka* -**

- ❖ *Twaka* known as which is completely cover the *Meda*, *Shonita* and all *Dhatus* in the body⁵.
- ❖ External covering of body is called as '*Twaka*'⁶.
- ❖ *Twaka* is explained as *Indriya*, which is spreaded all over the body which is known as '*Twagendriya*' or '*Sparshendriya*'⁷.

***Paryaya* -**

Twacha, *Charma*, *Chhavi*, *Sparshana*, *Asrukdhara*, *Chhadani*.

Utapatti of Twaka -

- ❖ *Vagbhata* - *Twaka* is formed by the essence of *Rakta Dhatu*, which is the creamy layer formed from the boiled milk⁸.
- ❖ *Sushruta* - explain principles and structures. This application is called as '*Dushtanta*'.
- ❖ During the *paka* of *Shonita* and *Shukra*, by the help of *Agni* or *Pitta dosha*, then seven types of *Twaka* appeared on the surface of the body of *Garbha* just like the heating milk cream appear on its surface⁹.
- ❖ *Charaka* has not mentioned any description about the genesis of *Twaka*¹⁰.

Origin of Twaka –

Charaka has described that every structure of the body which is developed from the *Shadabhavas*, in which *Twaka* is one of the *Matruja Bhava*¹¹.

Number of Twaka¹² -

- ❖ *Charaka, Vagbhata, Bhela, Kashyapa* = 6 types of *Twaka*.
- ❖ *Sushruta, Bhavaprakasha* = 7 types of *Twaka*.

Classification of Twaka -**Types of Twaka -****Table no. 1 - Showing Twaka names in different Samhitas**

Sr. No	<i>Charaka</i> ¹³	<i>Sushruta</i> ¹⁴	<i>Vagbhata</i> ¹⁵	<i>Sharangdhara</i> ¹⁶ & <i>Bhavaprakasha</i> ¹⁷
1	<i>Udakadhara</i>	<i>Avabhasini</i>	<i>Udakadhara</i>	<i>Avabhasini</i>
2	<i>Asrukadhara</i>	<i>Lohita</i>	<i>Asrukadhara</i>	<i>Lohita</i>
3	<i>Sidhma, Kilasa</i>	<i>Shweta</i>	<i>Sidhma, Kilasa</i>	<i>Shweta</i>
4	<i>Dadru Kushtha</i>	<i>Tamra</i>	<i>Sarva Kushtha</i>	<i>Tamra</i>
5	<i>Alaji, Vidradhi</i>	<i>Vedini</i>	<i>Alaji, Vidradhi</i>	<i>Vedini</i>
6	<i>On cutting one feels blindness</i>	<i>Rohini</i>	<i>Pranadhara</i>	<i>Rohini</i>
7	-----	<i>Mamsadhara</i>	-----	<i>Sthoola</i>

Table no. 2 - Showing *Twaka* layer wise distribution of Skin disease

Sr. No.	Charaka	Sushruta	Vagbhata	Sharangdhara & Bhavaprakasha
1	-----	<i>Sidhma</i> , <i>Padmakantaka</i>	----	<i>Sidhma</i>
2	-----	<i>Tilakalaka</i> , <i>Nyaccha</i> , <i>Vyanga</i>	----	<i>Tilakalaka</i>
3	<i>Sidhma</i> , <i>Kilasa</i>	<i>Charmadala</i> , <i>Ajagallika</i> , <i>Mashaka</i>	<i>Sidhma</i> , <i>Kilasa</i>	<i>Charmadala</i>
4	<i>Dadru Kushtha</i>	<i>Kilasa</i> , <i>Kushtha</i>	<i>Dadru Kushtha</i>	<i>Kilasa</i> , <i>Shwitra</i>
5	<i>Alaji</i> , <i>Vidradhi</i>	<i>Kushtha</i> , <i>Visarpa</i>	<i>Alaji</i> , <i>Vidradhi</i>	<i>Sarva Kushtha</i>
6	Blindness	<i>Granthi</i> , <i>Apachi</i> , <i>Arbuda</i>	Blindness	<i>Granthi</i> , <i>Apachi</i>
7	-----	<i>Bhagandara</i> , <i>Arsha</i> , <i>Vidradhi</i>	----	<i>Vidradhi</i>

Twaka Pramana –

Sushruta has mentioned the thickness / *Pramana* of *Twaka*, in the measurement of '*Vrihi Pramana*'. [*Vrihi* = Rice grain]. So, the *Twaka Pramana* [thickness] of the layers are as follows ;

According to *Dalhana*, a commentator of *Sushruta Samhita* ; 20 parts of 1 rice grain should be done and then thickness of *Twaka* should be determined.

Ex. *Avabhasini Twaka* = 18/20 parts of 1 *Vrihi*¹⁸.

Table no. 3 - Showing Comparison of *Pramana* of *Twaka*

<i>Twak name</i>	<i>Sushruta</i>	<i>Dalhana</i>
<i>Avabhasini</i>	1/18 th	18/20
<i>Lohita</i>	1/16 th	16/20
<i>Shweta</i>	1/12 th	12/20
<i>Tamra</i>	1/8 th	8/20
<i>Vedini</i>	1/5 th	5/20
<i>Rohini</i>	1	1
<i>Mamsadhara</i>	2	2

Review on Skin¹⁹ –

Skin disorders affects all the ages and number more than two thousand. Assessment of skin is very valuable in the management of anyone presenting with any medical problem and, conversely, assessment of the other body systems is important when managing primarily skin disease. This chapter concentrates on those skin diseases seen most frequently and those that are important as components of general medical conditions affecting other organ systems along with the skin.

Functions of the skin –

The skin has many functions, all of which can be affected by disease. This are mentioned as follows ;

Table no. 5 - Showing Functions of Skin

Function	Structure / Cell involved
Protection against chemicals, particles, etc.	Stratum corneum
Maintenance of fluid balance - prevents loss of water, electrolytes and macromolecules	Stratum corneum
Shock absorber	Dermis and subcutaneous fat
Sensation	Specialized nerve endings mediating pain and withdrawal itch leading to scratch and removal of parasite.
Vitamin D synthesis	Keratinocytes
Metabolism Ex. Detoxification of Xenobiotics, etc.	Predominantly Keratinocytes
Temperature regulation	Eccrine sweat glands & blood vessels
Protection, and fine manipulation of small objects	Nails
Hormonal - Testosterone, Steroidogenesis synthesis, etc.	Hair follicles, sebaceous glands
Psychosocial, grooming	Appearance, tactile quality of skin, nails, hairs
Pheromonal	Apocrine sweat glands

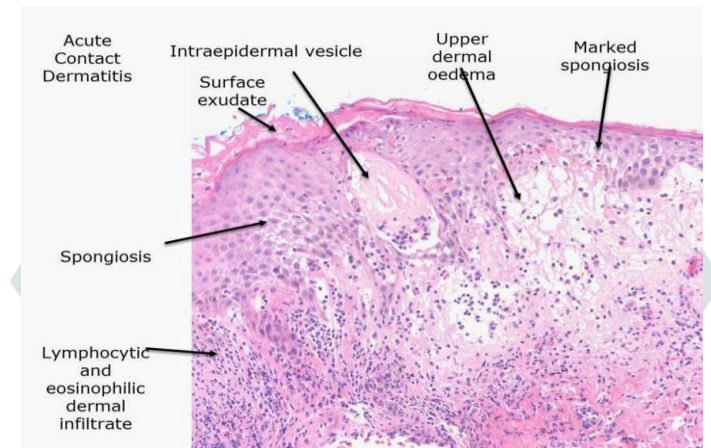
Twaka Roga [Vicharchika] and its anatomical changes related to Twaka –

Now a days *Twaka Rogas* are commonly found in daily practice. *Vicharchika* is one of them. It is characterized by *Kandu, Vaivarnya, Shyava, Strava* from *Pidika*. *Vicharchika* is included under *Kshudra Kushtha* and it can be correlated with Eczema in modern science. Eczema is one of the type of skin disease which has the most of the similar symptoms which can be correlated on the basis of literary, clinical and histopathological observational study of both *Ayurveda* and modern science.

In skin disease like *Vicharchika* we can studied the structural changes which can be present and assess from the skin biopsy. Some anatomical changes as well as structural changes are described which are as follows ;

- Hyperkeratosis – Increased outer layer of the skin i.e. Stratum corneum.
- Spongiosis – Intracellular epidermal edema i.e. histologically seen clear spaces within the layer.
- Acanthosis – Darkening of the skin.
- Cellular infiltration – Defined as presence of inflammatory cells without other evidence of inflammatory process i.e. edema, necrosis, etc.

Photo no. 1 – Showing Structural changes of Skin



All this findings was helpful for the diagnosis, histological study of skin in various skin disorders. Therefore this histological study, skin biopsy etc will be helps to diagnosed structural changes present in skin diseases like eczema, etc.

Discussion –

Study of *Twaka* and its anatomical changes helps to diagnose as well as for management also. Acanthosis, Spongiosis etc structural changes will be helping for the properly diagnosis of the skin disorders. In *Ayurveda*, *Twaka Shareera* was described which includes its anatomical and physiological study of *Twaka* i.e. Skin. In this review included skin types according to the *Charaka*, *Sushruta*, *Vagbhata*, *Sharangdhara* and *Bhavaprakasha Samhita*. *Twaka Pramana* and its modern aspect was mentioned.

Conclusion –

Twaka mentioned as one of the sensory organ which covers the body and protects it from various infection, pathogenesis etc. In this article review on *Twaka Shareera* according to *Ayurveda* and modern science. It includes *Twaka Shareera*, its layers, its thickness etc. *Twaka Rogas* includes proper diagnosis from which its helpful for its management. Structural changes of the skin helpful in skin diseases like *Vicharchika* which can be correlated with Eczema.

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