

Anatomico-Physiological Study of Twacha W.S.R. to Bhrajak Pitta

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Abstract

Twacha is a seat of sparshendriya and it is very extensive (vyapaka) among the all five gyanendriya. According to Acharya Vagbhata, Twacha is formed from the paka of rakta Dhatu by its Dhatavagni (A.H.Sa3/8-9). According to Acharya Sushruta (Sharir sthana), when shukra combines with shonita and this combination is when charged with Aatma, various organs start developing and in this development process, Twacha is formed in the same manner as layers formed and deposited on the surface of milk. Pitta in the skin is called as Bhrajaka pitta. It imparts colour to the skin. It maintain the complexion and colour of the skin.

Keyword: Twacha, Bhrajaka pitta, Colour.

Introduction-

Twacha is the outermost protective covering that envelops the whole surface of the body. Twacha is a seat of sparshendriya and it is very extensive (vyapaka) among the all five gyanendriya.

Twakutpati-

According to Acharya Charak, Twak is upadhatu of mamsa and he also stated that it is a Matrujabhava because it is coming from ovum.

तस्य खल्वेवं प्रवृत्तस्य शुक्र शोणितस्याभिपच्यमानस्य श्रिरस्येव सन्तनिकाः सप्त त्वचो भवन्ति ।। (सु.शा 4/4)

According to Acharya Sushruta (Sharir sthana), when shukra combines with shonita and this combination is when charged with Aatma, various organs start developing and in this development process, Twacha is formed in the same manner as layers formed and deposited on the surface of milk.

According to Acharya Vagbhata, Twacha is formed from the paka of rakta Dhatu by its Dhatavagni (A.H.Sa3/8-9)

According to Acharya Bhavmishra, Twacha is formed from the paka of Shukra and Rasa Dhatu.

Description of Layers of Twacha by different Acharyas-

There are different opinions about the layers of Twacha by different Acharyas.

S.N.	Name of Samhita	No of Layer
1.	Sushruta Samhita	7
2.	Charak Samhita	6

3.	Astang Sangrah	6
4.	Astang Hridaya	7
5	Bhel Samhita	6
6.	Sharangdhara Samhita	7
7.	Kashyap Samhita	6

Acharya Charak has stated that Twacha is composed of six layers but named only first two layer of Twacha Udakdhara and Ashrukdhara. (Ch.Sha.7/4)

S.N.	LAYERS	CONTAINS
1.	Udakdhara	Udaka means watery substance
2.	Ashrukdhara	Blood Capallaries
3.	Third	Manifestation of Sidhma and Kilas
4.	Fourth	Manifestation of Dadru and Kustha.
5.	Fifth	Manifestation of Alaji and Vidrodhi.
6.	Sixth	Manifestation of Arushi. If this layer is injured then individual get trembled and enters into darkness.

In Sushruta Samhita, Acharya Sushruta has mentioned the seven layers of Twacha unlike Acharya Charak he mentioned the thickness of layer. (Su.Sha.4/4)

S.N.	Name of Twaka	Thick ness	Seat of Disease
1.	Awabh asini	1/18 of Vrihi	Sidhma, Padmakantaka
2.	Lohita	1/16 of Vrihi	Tilkalak, Nyachha, Vyanga
3.	Shweta	1/12 of Vrihi	Charmadala, Alagalika, Masaka
4.	Tamra	1/8 of Vrihi	Kilas, Kustha
5.	Vedini	1/5 of Vrihi	Kushtha, Visarpa
6.	Rohini	1 Vrihi	Granthi, Arbuda, Apachi, Shil pada, Galaganda
7.	Mansd hara	2 Vrihi	Bhagandhara, Vidradhi, Arsha

The thicknes of layer mentioned in above table is applicable for thick skin only which is onmuscular part of body It should not be applied to skin of forehead, fingers or other thin part of body.

Acharya Vriddha Vagbhatas has described 6 layers of Twach similar to Acharya Charak theonly difference is that he named the sixth layer as Pranadhara. In Astanga Hridaya, there is a description about the Twacha utapatti and the number of Twaka-Sftar.

Acharya Bhel has described six layers of Twacha and corresponding disease of twacha as described in Charak Samhita. Acharya Sharangdhara also mentioned seven layer of skin, the first six layers are named same as sushruta but he named last one as Sthula. The thickness of all 7 layer is equal to 2 vrihis.

Acharya Ghanekar has co-related the layers of Twacha with the skin layers given the Modern Annatomy-

S.N.	Name of Twacha	Skin Layer
1.	Awabhasini	StratumCorneum
2.	Lohita	Stratum Lucidum
3.	Shweta	Stratum Granulosum
4.	Tamra	Stratum Spinosum
5.	Vedini	Stratum Basale/Germinatum
6.	Rohini	Papillary Layer
7.	Mansdhara	Reticular Layer

According to the modern Anatomy, the layers upto stratum germinatum is known as Epidermis Dermis consist of Papillary and Reticular layer.

BHRAJAK PITTA- The word ‘Bhrajak’ has the meaning to brighten or to glorify.

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Pitta in the skin is called as Bhrajaka pitta. It imparts colour to the skin.It maintain the complexion and colour of the skin.

Bhrajaka pitta is called as Bhrajak agni by Acharya Sushruta. Different medicaments are used for abhyang, parishek, avagaha, leps. These medicaments are absorbed due to Bhrajaka pitta. It exhibit the Chaya and Prabha of the skin.

Bhrajak Pitta is responsible for colour of skin. According to the modern science, melanin is the pigment which influence the skin colour. Melanocyte are present in the basale layer. They produce melanin from amino acid tyrosine and inject the melanin into other layer of epidermis melanin is the pigment that give colour to the human skin, hair and eyes. Darker the person more is the melanin pigment. IN condition such as viriligo that effect melanocyte may creat patchy pigmentation.

Other pigment which play role in imparting the colour to skin are carotenoids, oxyhb, reduced haemoglobin. Carotenoids are brightly coloured substance found in carrots, peppers, egg yolk etc. Carotene is yellow orange in colour and is powerful antioxidant that helps protect skin from oxidative damage. Oxyhaemoglobin imparts red colour to the skin, especially to the rich arterial supply area eg- face, neck, palm, sole and nipple etc. Reduced Haemoglobin impart bluish colour to the skin.

Other functions of Bhrajak Pitta are-

Absorptive function – Whatever is administered on the skin in the form of Abhyang, Avaghah, Pralepa etc. are digested by the Bhrajaka Pitta and absorbed by the skin layer.

Temperature Regulation – Due to basal metabolism, muscular activities and assimilation of food some heat is produced in the body. These process are under the control of pittta. The secretion of sweat is one of the important methods of heat loss.

The degree of sweat secretion depend upon the body and environment temperature. The bhrajaka pitta may regulate the body temperature by its action on sweat gland and cutaneous vessels.

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