

## **TWACHA SHAREER & ITS CO-RELATION WITH MODERN SCIENCE**

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### **ABSTRACT**

Twacha (skin) is a multilayered & multifunctional structure of the body. It might be the only structure of the body of which description & references are found in each & every textbook of Ayurveda. But only Sushruta is the author who described twacha in detail in Shareer than of Sushrutsamhita. He has described not only each & every layer of twacha, but also thickness of these layers for the first time. It is the identity & uniqueness of Sushruta. As description of twacha & its thickness is present in both modern & ancient sciences, obviously as a research point of view, there will be curiosity to compare & co-relate this description. As a part of this curiosity, this is a simple & sincere attempt to co-relate layers of twacha & its thickness.

### **INTRODUCTION**

Ayurveda follows laws of nature & propounds a number of doctrines for the understanding of life, health diseases. In Ayurvedic classics like Charaksamhita, Sushrutsamhita etc. a huge knowledge regarding Shareer, Nidan & Chikitsa is available. For an expert vaidya, to treat a disease, through knowledge about disease & shareer of its related part is mandatory. For any successful vaidya or shalyachikitsa, through knowledge of Shareer is very essential for diagnosis & treatment or to perform surgical procedures. So one who wants to have

knowledge of Shalyatantra, he should go for dissection & study each & every macro & micro organ of the body.

In Sushrutsamhita acharya Sushruta has described the structures of human body in detail. Acharya Sushruta was the first to dissect human body. Sushruta described twacha in a systematic manner. Very important part of description of twacha is its 'thickness' & layers.

## TWACHA

In 'Garbhavyakarana' adhyay of Shareersthana of Sushrutsamhita, a detail description regarding twacha is seen. Acharya Sushruta has described all structures of human body by doing actual dissection. Sushruta starts dissection from outer most covering of body i.e. 'twacha'. After full decomposition of body, Sushruta tells to separate the outermost structure of skin & its layers one by one go deep & visualize other structures underneath the skin.

We all know that skin is the outermost covering of the body & all other structures reside under the shelter of it & get enveloped & protected by it. So skin is supposed to be the 'Get started point' of dissection.

## Number of Layers of Twacha

In different texts of Ayurveda, there is little bit controversy regarding number of layers of twacha. The variation number of layers of twacha. The variation is as follows :-

- (1) Charaksamhita : 6
- (2) Sushrutsamhita : 7
- (3) Ashtanghriday : 7
- (4) Ashtangasangrah : 6
- (5) Sharangdharsamhita : 7
- (6) Bhavprakashsamhita : 7
- (7) Kashyapsamhita : 6
- (8) Modern Science :

## Names of Twacha in different Samhitas

Sr. No.	Charaksamhita <sup>[8]</sup>	Sushrut <sup>[7]</sup>	Ashtany Sangrab <sup>[10]</sup>	Sharangdhar <sup>[11]</sup>	Bhavprakash <sup>[12]</sup>
1	Udakdhara	Avabhasini	Udakdhara	Avabhasini	Avabhasini
2	Asrukdhara	Lohita	Asrukdhara	Lohita	Lohita
3	Sidma kilas	Shweta	Sidhma, kilas	Shweta	Shweta
4	Dadru, kushtha sambhavadhishthan	Tamra	Sarv, kushtha sambhavadhishthan	Tamra	Tamra

5	Alaji, vidradhi, sambhavadhishthan	Vedini	Alaji, vidradhi sambhavadhishthan	Vedini	Vedini
6	On cutting one feels blindness	Rohini	Pranadhara	Rohini	Rohini
7	=====	Mansdhara	=====	Sthoola	Sthoola

### Thickness of Twacha

Sushruta used a 'VRITHI'. A rice grain to measure thickness is divided into small & equal parts to compare with the thickness of layers of twacha. He described thickness of different layers of twacha as follows : -

- (1) Avabhasini : - 1/18 th part of rice grain
- (2) Lohita : - 1/16 th part of rice grain
- (3) Shweta : - 1/12 th part of rice grain
- (4) Tamra : - 1/8 th part of rice grain
- (5) Vedini : - 1/5 th part of rice grain
- (6) Rohini : - Equal to thickness of 1 rice grain
- (7) Mansdhara : - Equal to thickness of 2 rice grain.

### Comparison of Skin Layer

Sushrut Samhita Modern Science

- (1) Avabhasini - Stratum corneum
- (2) Lohita - Stratum lucidum
- (3) Shweta - Stratum granulosum
- (4) Tamra - Stratum spinosum
- (5) Vedini - Stratum basale
- (6) Rohini - Papillary layer
- (7) Mansdhara - Reticular layer

### Layerwise Co-relation of Skin Layer

The no. of skin layers told by Sushruta & Modern science is same but if sequence is considered then face to face co-relation i.e. Avabhasini - stratum corneum or like that will not be correct. So, after studying following description regarding structure, function & properties of each & every layer, final conclusion can be drawn.

- (1) Avabhasini : - A reflector layer which illuminates all shades of skin.
- (2) Lohita : - A layer having reddish coloured cells in it.
- (3) Shweta : - A transparent white or clear layer.

- (4) Tamra : - A layer having granular copper coloured cells.
- (5) Vedini : - A layer having touch sensitive cells.
- (6) Rohini : - A layer having cells helpful for wound healing.
- (7) Mansdhara : - A layer which gives support to underlying structures i.e. deep fascia & muscles.

A brief description of skin layer is as

- (1) Stratum corneum : - Outermost layer of skin.
- (2) Stratum lucidum : - A transparent or clear layer.
- (3) Stratum granulosum : - A layer having granular copper coloured cells.
- (4) Stratum spinosum : - A layer having spiny projections.
- (5) Stratum basale : - A layer having germinating cells.
- (6) Papillary : - A layer having touch sensitive dermal papillae.
- (7) Reticular layer : - A layer having dense irregular connective tissue & blood vessels vessels arranged by thick collagen fibres in a net like manner.

So after comparing above description we can correlate these structures approximately like below.

Layers in Sushrut Samhita Modern Science

- (1) Avabhasini - Stratum corneum
- (2) Shweta - Stratum lucidum
- (3) Tamra - Stratum granulosum
- (4) Vedini - Papillary layer
- (5) Rohini - Reticular layer
- (6) Mansdhara - Hypodermis .

## DISCUSSION

There is a lot of description of Twacha & allied aspects in different Samhitas of Ayurveda. The description is more or less same or at some point there is considerable controrary.

## CONCLUSION

- According to Sushruta there are 7 layers of twacha & in modern science also the no. is same.
- The layers of twacha described by Sushruta & their names match with layers of skin structurally & functionally as well.

- Sushruta is one step ahead when description of twacha is considered because he has described thickness of each & every layer of twacha which is exactly lacking in modern science.

#### REFERENCES

1. Priyavat Sharma - Sushrut samhita.
2. Bramhanand Tripathi - Charak samhita.
3. Ravindra Tripathi - Ashtang sangrah.
4. Brahmashankar Mishra – Bhavprakash samhita.