

ANATOMICAL AND PHYSIOLOGICAL STUDY OF SHUKRA DHATU

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ABSTRACT

Human body is made up of seven *Dhatus*. *Shukradhatu* is located in entire body, which is pure, white, excellent *Dhatu* and is considered as best among all seven *Dhatus*. All Sperm along with spermatogenic fluid and male sex hormones are also one part of *Shukradhatu*, parallel to which females possess *Artava*. Main function of *Shukra Dhatu* is Garbhotpadana (reproduction) Vitiating of *Shukradhatu* shows *Shukradhatu dusti* (pathology) in the form of *Vridhhi* (hyper state) *Kshaya* (waning). This vitiation may lead to male infertility. So it is an important entity in context to reproduction.

KEYWORDS: Male infertility, semen, *Shukradhatu*.

INTRODUCTION

Shukra is the substance which is responsible for all systemic body activities including metabolic functions and part of which comes out of the body at the time of sexual act and performs specific functions of reproduction. It is the product of four proto elements, *Vayu*, *Agni*, *Aap* and *Prithvi* with all six *Rasa*^[1] *Shukra* is *Saumya*,^[2] which is derived from *Jala Mahabhuta* but Charakacharya consider that *Shukra* contain all the *bhutas* except *Akasha*. All the four *bhutas* (*Vayu*, *Agni*, *Prithvi* and *Ambu*) individually share one fourth of the attributes of each of the *Mahabhutas*. *Shukra* is *pittrija bhava*^[3] *Shukra Dhatu* is counted as a *Kapha Vargiya Dravya* according to Harivansha Purana and also Acharya Vagbhata stated *Shukra* as *Ashraya Sthana* of *Kapha Dosha*.^[4] *Shukra Dhatu* possesses *Shadrasa*^[5] and one of

Pranayatanas of Sharira.^[6] Quantity of the *Shukra dhatu* is *Ardha* (½) Anjali in human body as per Acharya Charaka.^[7]

AIMS AND OBJECTIVES

Anatomical study of Shukradhatu in our body.

Physiological study of Shukradhatu in our body.

To study methods of production of Shukra Dhatu.

Anatomical structures of male reproductive system

Vrusana

The term *Vrusana* is derived from the root word “*Vrsa Varsati Anena*” which mean showering. It called by the name *Vrusana* because it showers the *Shukra*. *Vrusana* are two in number and are formed from *Mamsa*, *Rakta*, *Kapha*, *Meda*.^[8] It resembles shape of egg hence it is called by the name *Anda* and also called as *Phala* as it contain numerous seeds. It can be said that *Vrusanagata Shukradhara* kala brings about the formation of *Rupa dravya*, which is a mixture of the fertility factor and some fluid medium, this can be partly sustained by the descriptions of injury to the *Vrusana* leading to either infertility or impotence.^[9] The *Vrusana* are the *moola* of *Viryavahi sira* and the seat of *Pourusya*.^[10]

Shukradhara kala

Shukradhara kala is the seventh kala and it pervades the whole body. It provides place for the collection of *Shukra*.^[11] According to modern allopathic science this does not exist. The simile given here is like how ghee is present milk or sugar in expressed juice of sugarcane similarly the *Shukra* exists in the whole body of the human beings.^[12] *Shukradhara kala* perform two functions

- a) *Shukradhara kala* holds the pervading *Shruka dhatu* produced from evolutionary metamorphosis of *Ahararasa* and helps in maintaining the status of *Shukra* , as well as *Saarvadaihika* functions of *Shukra*.
- b) The part of *shukradhara kala* situated in *Vrishana* brings the transformation of pervading *Shukra dhatu* into the ejaculatory part of *Shukra*, the *Retas* or the *Rupa dravya*. The germinal epithelium present in the accessory sex glands and the testes is considered as part of *Shukradhara kala*.

Shukraashaya

This has been mentioned in the context of *Shukraashmari*^[13] and is correlated with the seminal vesicle.^[14]

Shukravaha srotas

These are two in number with their origin at the *Vrushana* and *Sepha*.^[15] Sushruta has mentioned *Stana* instead of *Sepha*.^[16] Acharya Vaagbhata added *Majja* along with *Muskau* and *Stanau* as the *mula* of *Shukravahasrotas*.^[17]

Shukravaha dhamani

One pair of *Shukravaha Damani* is described, One for *Shukra visarga* and the other for *Shukra prabhava* function respectively.^[18]

Shukravaha sira

Shukravaha sira is mentioned by Acharya Sushruta while describing the *Shanda* and it helps in the production and ejaculation of *Shukra*.^[19]

Sepha

Sepha is copulatory organ in males which is having dual functions of *Mootra Visarga* (micturition) and *Shukra Visarga* (ejaculation).^[20] According to Acharya Charaka *sepha* is *Shadangula deergha* and *Panchangula Parinaaha*.^[21] The length of flaccid penis measures about 4 *angulas* in length and when erect measures about 6 *angulas*.^[22]

Physiological aspect of male reproductive system**Production of shukra from ahaara**

The *Rasadi Sapta Dhatus* are nothing but the outcome of successive evolutions, the previous Dhatus being transferred into the latter. The *Anna rasa* or the *Ahara rasa* forms the substrate for this progressive evolution. Thus, *Rasa Dhatu* is formed foremost, the *Rakta Dhatu*, and so on, up to the transformation of *Majja* into *Shukra Dhatu*.^[23,24,25]

Chakrapaani has mentioned three *Nyaayaas* for *Dhaatu* formation. Among the 3 *Nyaayas*, *Ksheera dadhi Nyaaya* explains the initial *dhaatu* formation as such and the other two *Nyaayas* viz., *Kedara kulya* and *Kale kapota Nyaaya* explain the nourishment of *Dhatus*.

Production of shukra from majja dhatu

According to Acharya Charaka from the point view of Ayurvediya Kriya Shaareera, *Shukra* stands last among the Sapta dhatus and is the outcome of evolutive metamorphosis of *Majja dhatu*.^[26] Acharya Sushruta and Vagbhata also opines the same as charaka.

Shukra is fatty portion of *Majja*. This *Shukra* comes out of bones through the pores created by Vayu and *Akasha Mahbhootas*. Just like water oozing out of new earthen pot, *Shukra* also oozes out of these pores and then circulates all over the body, the integrity of which is maintained by the *Shukradara kala*.^[27] Dalhana, the commentator of Sushruta Samhita opines that the brain substance has also been called *Mastakamajja- majja* present in cranial cavity. Probably hypothalamo-pituitary – gonadal axis and all hormones in this axis, representing *sarvadaihika Sukra* can be thus explained to be formed from *Majja*.^[28]

Time required for the production of shukra dhatu

According to Achaarya Sushruta one *Maasa* is the time required for the production of *Shukra* from *Rasadhatu*.^[29] Achaarya Charaka mentioned six days for transformation of *Ahaara* into *Shukra dhatu*.^[30] The Aphrodisiacs due to their *Prabhaava* leads to production of *Shukra* within one day.^[31]

Quantity of shukra

Acharya Bhela has mentioned the quantity of *Shukra* as One *Anjali*.^[32] Whereas Acharya Charaka mentioned the quantity of *Shukra* as *Ardhaanjali*.^[33]

Upadhatu of shukra

Though Acharyas like Charaka, Susruta and Vagbhata haven't mentioned any upadhatu for *Shukra* but Achaarya Shaarangadhara considers *Ojas* as the Upadhatu of *Shukra*.^[34]

Shukra mala

Acharya Charaka and Sushruta have considered *Shukra* to be purest substance and hence it is devoid of Mala. However some authors and commentators have mentioned the Mala of *Shukra* as follows- *Ojas* is the Mala of *Shukra*,^[35] *Vaktra Snigdhatu*, *pidaka* (acne) as the mala of *Shukra*.^[36]

Characters representing shukra

There are two important features of shukra namely

1. Features of Sharirika Shukra

2. Features of Ejaculatory part or Rupadravya.

Feature of sharirika shukra: The attributes of Shukra Sara individual can be considered as Sharirika features of Shukra.

- a. Saumya (Gentleman)
- b. Saumyapreksinaha (Gentle look)
- c. Ksirapurnalochana (Eyes appearing filled with milk)
- d. Praharshabahula (Cheerfulness)
- e. Snigdha-vrittasamhata- Dasanaha (Teeth which are unctuous, round, strong, dense, even)
- f. Prasanna - Snigdha-varnasara (Pleasant unctuous voice and complexion)
- g. Bhrajisnuta (Dazzling appearance)
- h. Mahaspica (Large buttocks)
- i. Stripriya (Loved by women)
- j. Upabhoga balavana (Virile)
- k. Sukha (Endowed with happiness)
- l. Aishwarya (Prosperity)
- m. Arogya (Health)
- n. Vitta (Money)
- o. Sammana (Honour)
- p. Apatyabahula (Many offspring)^[37]

Features of ejaculatory part of sukra

The Ejaculatory part of Sukra or Rupadravya has some Physical properties – The semen is Snigdha (unctuous), dence, slimy, sweet, non-irritating (mild), and white just like a piece of alum crystal.^[38]

CONCLUSION

Shukradhatu is produced from *aahar rasa* through *Majjadhatu*. It is *somya* or *Jala mahabhuta pradhana*. *Sukradhatu* is present in all over body. *Sukradhatu* has *garbhotpadak* property and sperm also so we can compare it. There are so many functions of *Shukradhatu* but main function of *Shukra Dhatu* is *harsh, preeti*, etc can be correlated with hormonal activity.

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