PHYSIOLOGICAL ASPECT OF SHUKRA DHATU: A REVIEW

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ABSTRACT
According to Ayurveda, Shukra is the terminal tissue of the body, considered as the Sara of all other Dhatus, pervading entire body in both sexes, responsible for systemic and functions associated with sexual behaviour. Some form of which comes out of the body at the time of sexual act in visible form (Roopadravya) in male as semen. The chief function credited to Shukra Dhatu (Sarva Sharir Vyapi) as well as the semen (Roopadravya) is Garbhotpadan.

Keywords: Shukra Dhatu, Roopdravya, Semen, Reproduction

INTRODUCTION
Reproduction is one of the basic characteristics of living being, which ensures continued existence of the species on earth. In male reproduction is the prime function of ‘Shukra’ while in female ‘Artava’ is responsible for fertilization. Shukra is present in entire body and is considered as the Sara of all other Dhatu. So it is advised practicing healthy sexual life, consuming healthy food and leading a healthy lifestyle help to protect Shukra.

Aim & Objectives: To review literature regarding Shukra Dhatu as described in Ayurveda classics and to explore it in view of modern endocrinological aspect. 

Material & Method: All available Ayurveda classical texts, relevant literature from modern physiology, other various related information from authentic publications and internet. All relevant references will be compiled, analysed, discussed and reviewed as the method to get a thorough and in depth understanding of physiological aspect of Shukra Dhatu.

Review of Literature: Term Dhatu is used in various references in Ayurveda classics but the physiological aspect of this word represents the primary tissues, responsible for Dharana and Poshana of the body¹. Sushruta named them Dhatu because of their Sharir Dharana function. These are seven viz. Rasa, Rakta, Mamsa, Meda, Asthi, Majja, Shukra, since may vitiated by Doshas hence also considered as Dushya². Dhatu originates from its previous Dhatu, when getting matured, is metabolized and replaced by new Dhatu Dravyas continuously thus fulfilling the Utpatti (origin) and Kshatipurti (replacement) of Dhatu itself. This process of transformation and replacement is called as Dhatvagni Vyapa (tissue metabolism)³. Shukra is the terminal tissue element of the body and is considered as the Sara (extract) of all other Dhatus⁴. The word ‘Shukra’ is derived from the Dhatu “Shuch shoch” (शुच् शौच) (meaning purity) or “Shuch - Klede” (शुच्, क्लेदे) means Kledarthaka Shuchi Dhatu, and by adding Ounadhika Ran Pratyaya and Katwadesh in place of R, Shukra word is proved⁵.
**Charaka** has described *Shukra* as the substance which is discharged by male in the vagina of female after menstrual bleeding for the creation of *Garbha* and composed of for Mahabhuta: Vyayu, Agni, Apa and Prathavi except Akash. Each of four Bhutas(Vyayu, Agni, Prithvi and Apa) individually shares one fourth of the attributes of *Shukra*. *Sushruta* mentioned Bhaatic origin of *Shukra* from Soma or Jalamahabhuta predominately. So, the substances having Sausmya nature (Kapha Vargiya Dravya) like Madhura, Snigdha favours Shukra Dhatu Nirmana thus promote fertility in male.

### Table 1: Relationship between Mahabhuta and attributes of *Shukra* -

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Mahabhuta</th>
<th>Attributes of <em>Shukra</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Tejas</td>
<td>Shukla Varna (like allum)</td>
</tr>
<tr>
<td>2.</td>
<td>Jaliya</td>
<td>Madhur Rasa, Snidhata, Pichhilata, Dravata</td>
</tr>
<tr>
<td>3.</td>
<td>Parthiva</td>
<td>Madhugandhi, Guru</td>
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<tr>
<td>4.</td>
<td>Vayvya</td>
<td>Snigdha Sparsha</td>
</tr>
</tbody>
</table>

Describing the characteristic features of *Shukra* (Roopadravya) **Charaka** mentioned Shukra having properties like unctuous, viscous, heavy, slimy, copious, sweet in taste, none burning, white like rock crystal , devoid of unpleasant smell should be considered as pure and undoubtedly fruitful while *Sushruta* mentioned *Shukra* , which is glossy and transparent like crystal, fluid in nature , sweet in taste and exhibits the smell of honey or oil or may be like honey in appearance (according to some other authors) should be considered as pure. The normal quantity of *Shukra* in human body is said to be half *Anjali*, but according to *Bhela it is one Anjali*. Being one of the seven Dhatu it should be present in entire body, but it is found in significant amount in some organs (storage sites or working places) specially. These organs may be considered as the locations of *ShukraDhatu*. Besides this the ShuukravahasaRotaMoolla as well as all body organs directed in Shukrasara individual may also be considered as the location of Shukra Dhatu in the body. In *Sushruta Nidana*, it has described that as fat (Sarpi) is in the milk, sugar is in the expressed juice of sugarcane, Ghee in curd and oil in sesames (Seeds) Shukrakis pervaded all over the sentient body.

**Charaka** has also stated similar concept in Chikitsa Sthana, in Ashtang Samgrahi Sharir Sthana, it has described that seventh (Shukradhara) Kala, which is situated at a distance of two Angulas from right side of the Mutramarga below Bastidwar and is pervaded in all body and it assimilates Shukra in it. But on cutting or dissecting the body parts it is not visible, on the other hand when a person is sexually excited this squeezes out from whole body in the form of Roopadravya (visible form) and get accumulated in Shukrashaya and ejaculated by Shishna (penis) being stimulated by various stimuli. *Sushruta inSharir Sthana* described that in female, Artava is responsible for fertilization not the Stri Shukra. He also stated that when two females involve in indulgence, the fetus formed is Anasthigarbha. This means, without bone or having undeveloped bones as AsthiBhava is produced in Garbha because of PitrajBhava. The main function of ShukraDhatu is reproduction & it is said that Stri Shukra is not capable of reproduction but Artava is responsible for it in female. While Bhavamishra described that in female ShukraDhatu keeps vagina moist during the act of coitus. In Charaka Samhita Chikitsa Sthana, it has been described that, before puberty Shukra remains in dormant stage and appears in visible form after puberty as a flower has its specific fragrance, which is hidden (not expressed) in its bud stage.

**DISCUSSION**

The meaning of word *Shukra* often is mistaken only as semen (Roopadravya) ejaculated during the sexual act, but basically is an subtle entity pervading entire body with the help of Shukradharakala as Ghrita (Ghee) is hidden in milk (Sarvasharigata) and may be termed as Suksma Roopa of Shukra representing...
seventh Dhatu in male and female both serving as primary tissue, carries out systemic functions like Dhairya (courage), Preeti, Deha Bala, (strength of the body) etc, and some functions related to sexual act like Harsha and Chyavan ‘present in both the sexes’. Furthermore it may be compared with the entire endocrine orchestra of Hypothalamic-Pituitary-Gonadal (HPG) axis which regulates entire reproductive physiology, including GnRH from Hypothalamus, GTH from anterior pituitary and sex hormones. GnRH and GTH are secreted in both the sexes equally while sex hormones secreted in both sexes but in different amounts. Progesterone with oestrogen strengthen the bones, maintains blood cholesterol level, oestrogen promotes growth and development while testosterone stimulates hemopoiesis, muscular and bone growth etc. Furthermore there are some Synonyms of Shukra viz, Paurusam (virility inherited in a man), Veerya (potency to perform), Bala (strength), Tejas (which is shiny and bright and is the absolute essence of Ahara Rasa), which recognize it as an androgen derivative, showing masculinising properties all over in the body. The characteristics of Shukra Sara individual may also be considered as the effect of Sarvasharirgata (Sukshma) Shukra like Soumya (gentleman) possessing Saumyapreksinaha (gentle look), Ksipuranalocana (milky eyes), Praharsa Bahula (joyful), Snigdhavrittamasahata-dasanaha (slimy, rounded, solid, compact and uniform teeth), prasanna – Snigdhavarnasara (pleasant and smooth voice and complexion), Bhrajsista (stunning appearance), Mahaspica (large buttocks), Stri-Priya (loved by opposite sex), Upbhoga Balavna (virile), Sukha (endowed with pleasure), Aiswarya (prosperity), Arogya (health), Vitta (money), Sammana (respect), Apatyabahula (having numerous descendants).

This Sukshma form of Shukra displays its presence by the ejection in its visible form (Stoola Roopa of Shukra) by sexual drives. By exhibiting similar properties and functions, it may be simply matched to the semen (the secretion of the prostate, seminal vesicles and Cowper’s gland ejaculated at the climax of sexual act, serving as the suspension of spermatozoa) e.g. Saphatikabham (white and translucent), Madhugandhi (the special odour imparted to semen), fructose present in seminal fluids gives Madhura (sweet) taste, Avidahi characteristic indicates pH of the semen (neither acidic nor strongly alkaline) meaning not causing burning sensation during ejaculation, the other physical characteristics like Drava (liquid), Snigdha (slimy), Pichhila (viscous) and Sara (flowing) postulate the normal consistency of semen owing to the various components of seminal fluid, Bahala and Bahu specify the appropriate amount of semen and the sperm count respectively. In modern medicine also it is mentioned that for fertility semen should be in adequate volume and sperm count should be more than 20 million with sufficient activity and motility of sperms. Retas and Roopadravya are some synonyms of Shukra representing it as semen, As Chakrapani defined Retas as the factor accountable for reproduction. Roopadravya can be taken as semen as a whole along with its subtle bodies (sperms).

Likewise female also bring out Shukra at the time of sexual arousal consisting of mucus secretions from paraurethral (skene’s) glands (homologous to the male prostate) and greater vestibular (bartholine’s) glands providing lubrication exhibiting some qualities similar to Shukra e.g. Guru, Snigdha, Pichhila and Madhu, Gandhi etc.

It is further explained by the concept of two forms of Shukra – Antah and Bahi as described by Gannath Sen, Antah Shukra (Sarvasharirgata) is secreted in both sexes and carries out all systemic as well as reproductive functions by stimulating growth of accessory reproductive organs and secondary sex characteristics in both sexes acting as seventh Dhatu essential for sustenance of life while Bahi Shukra is represented in male by semen (along with sperms), capable of reproduction and in female by secretions of cervical, Bartholin gland etc which simply lubricate vaginal passage and facilitates coitus but has no direct role in reproduction and is the visible form of Shukra in female. So Stri Shukra may be represented by both type of Shukra, Antah and Bahi.

Furthermore, this concept also supports the presence of Shukra Dhatu in children, since hormones from HPG Axis secreted in incompetent amount before pu-
berty so cannot expressed their functions (systemic as well as reproductive). Thereafter at the onset of puberty its secretion increases speedily and continues throughout the life, causing growth of accessory sex organs and development of adult primary and secondary sexual characteristics.

CONCLUSION

Shukra Dhatu is one of the Sapta Dhatus, which exist in both sexes, serving as primary tissue, pervading in entire body in invisible form as Sukshma Shukra or Antah Shukra carries out all systemic functions and functions related to sexual behaviour along with entire reproductive physiology.

It may be identified principally with the endocrine orchestra of Hypothalamic-Pituitary-Gonadal (HPG) axis as a whole which regulates entire reproductive physiology. Since these hormones are secreted in insufficient amount before puberty so cannot expressed its functions in children. Second category of Shukra is Sthula Roopa of Shukra (visible form), may be considered as Roopa Dravya or Bahi Shukra significantly appears only in male after puberty especially in reproductive organs like Vrishana and Medhra etc. Serving function of Garbhotpadana /Beejotpadan. It is compared with semen carrying sperms. It is compared with the visible form of reproductive secretions in female at the time of sexual arousal. Since it doesn’t contain StriBeeja (ovum) so is not capable of Garbhotpadan while Artava /Shonita (female gamete) carries out this function in female. The chief function credited to Shukra Dhatu (Sarva Sharir Vyapi Sukshma Shukra) as well as the semen (Sthula Shukra) is Garbhotpadan.

This is not correlations but is the way to understand the Ayurveda in the light of modern sciences.

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