

## ANATOMICAL CONSIDERATION OF *SHUKRA DHATU*: A REVIEW

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### ABSTRACT

Human body is made up of seven *Dhatus*. *Shukradhatu* is located in entire body. *Shukra* is white, pure, excellent *Dhatu*, which is considered as best among all seven *Dhatus*. All *Dhatus* have their definite locations in the body; sperm along with spermatogenic fluid and male sex hormones are also one part of *Shukradhatu*, parallel to which females possess *Artava*. *Pramana* of *Shukradhatu* are half Anjali. Any deviation in *Shukradhatu* (waning or increment) leads to pathogenesis. Vitiating of *Shukradhatu* shows *Shukradhatudusti* (pathology) in the form of *Vridhhi* (hyper state) *Kshaya* (waning). This vitiation may lead to infertility. So it is an important entity in context to reproduction.

**Keywords:** *Shukradhatu*, Semen, Hormones

### INTRODUCTION

**Definition of 'Shukra':-** *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*, *Aapaa* and *Prithvi* with all six *Rasa*.<sup>1</sup>

**Mahabhautic composition:-** *Shukra* is *Saumya*, which is derived from *Jala Mahabhuta* (Su. Sha. 3/2) but *Charakacharya* consider that *Shukra* contain all the *bhutas* except *Akash*.<sup>2</sup> All the four *bhutas* (*Vayu*,

*Agni*, *Prithvi* and *Ambu*) individually share one fourth of the attributes of each of the *Mahabhutas*.

**Embryological origin:** *Shukra* is *pittrija bhava*.<sup>3</sup>

**Doshik configuration:** *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*.<sup>4</sup>

**Rasa of Shukra:** *Shukra Dhatu* possesses *Shadrasa*.<sup>5</sup>

**Shukra is one of vital spots of life:** *Shukra Dhatu* is one of *Pranayatana*s of *Sharira*.

**Shukra is one and ultimate Dhatu of body:** *Shukra* is seventh in order of *Saptha Dhatu* and quintessence of all *Dhatu*s. *Shukra* is produced as result of successive evaluative metamorphosis of *Ahara rasa*.

**Quantity of Shukra:** Quantity of the *Shukra dhatu* is *Ardha* ( $\frac{1}{2}$ ) *Anjali* in human body as per *Acharya Charaka*<sup>6</sup>

#### Aims and objectives:-

- Anatomical study of *Shukradhatu* in our body.
- Corelation of *Shukradhatu* with Semen.

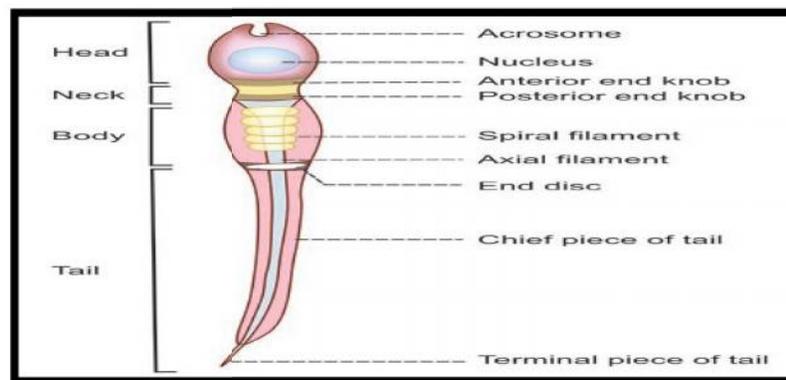
#### DISCUSSION

**SHUKRA AS SEMEN-** *Shuddha Shukra Lakshanas* resembles the physical properties of the seminal fluid. *Garbhottpada* i.e., fertilization is a prime function of *Shukra*. *Garbha* is formed by fusion of *Shukra* and *Artava*<sup>7</sup>. This main function of *Shukra* is attributed to spermatozoa. While enumerating *Shukra Pradoshaja Vikara*, it has been stated that, the vitiation of *Shukra* hampers one's fertilizing capacity.

**Semen** is ejaculated during sexual act. It con-

sists of sperms and the products of accessory sex organs- seminal vesicles, prostate gland and bulbourethral glands. The fluid part of semen is contributed by prostate gland and seminal vesicles. The prostate secretion gives milky appearance to semen and the fluid from seminal vesicles and mucus glands provides mucoid consistency to semen.

**Spermatozoon** (pleural = spermatozoa) is the last descendent of the male germ cell; developed in the testes. It is also called the sperm. The matured spermatozoon is 60 $\mu$  long, is equal to that of the nucleus of the ovum. Mature spermatozoon can be commonly divided into head neck body and tail. Head is oval shaped (in front view), it is elastic and measures about 4-5  $\mu$ m in length and 2.5 to 3.5  $\mu$ m in diameter. The head is connected to the body by a short neck. Body is cylindrical with a length of 5 to 7  $\mu$ m and the thickness of 1 $\mu$ m. The tail of the sperm consists of two segments. The chief or main piece of tail- It is enclosed by cytoplasmic capsule and it has an axial thread. It is 40 to 50 $\mu$  long. The terminal or end piece of tail (Flagellum)- It has only the axial filament; about 5  $\mu$ m long.



**SHUKRA AS HORMONE-** According to *Acharya Sushruta*, flower bud emits fragrance only when it blossoms, this doesn't mean that there is absence of fragrance in the bud. Similarly *Shukra* does not show its presence in childhood, but as the age proceeds it shows its presence. It does not mean that *Shukra* is absent in childhood stage. One of the most striking points is the presence of *Shukra* in both male and female, which is exhibited in male by appearance of hairs on face and genital organs and with the appearance of menstruation in female.<sup>8</sup>

*Vagbhata*, a step forward, even mentions the age 17 in male and 12 in female for appearance of these changes and also mentions that till 70 years in men and 50 years in women, these changes lasts<sup>9</sup>. On analyzing the cause for these changes it becomes evident of pubertal changes i.e., onset of reproductive life and it is the time when gonads develop endocrine and gametogenic functions.

Spermatogenesis in human testis starts from 7<sup>th</sup> week of gestation. during first three months after birth testosterone level rises and then fall by 1st year and remain low (but slightly higher in males than in females), until onset of puberty. In males, normally, plasma testosterone concentration reaches adult level at approximately 17 years of age and maintained until late middle age and decrease slowly at the age of 70.<sup>10</sup> The main functions attributed to *Shukra* are *Praharsha* (excitement, orgasm), *Dhairya* (psychophysiological daring), *Preeti* (affection towards opposite sex, sexual urge), *Chyvana* (to secrete), *Bala* (psycho physical energy or strength), *Gar-*

*botpatti* (fertility).<sup>11</sup> Maximum of above said functions infer about the androgenic nature of *Shukra*.

*Shukradhara Kala* is said to pervade the whole body of a human being. This can be interpreted as gonadal secreting membrane, testicular germinal epithelium and accessory sex glands functions in total. Male hormones are produced locally in testis and systemically by the adrenal glands which are regulated through hypothalamo pituitary gonadal axis. Disturbance at any stage will lead to sexual dysfunction. Impotency and lack of desire for sexual act (*Klaibya* and *Aharshana*) are the major conditions caused by morbidity of *Shukra*<sup>12</sup>. Both the above are purely under the control of androgen (testosterone) and nowhere related to seminal fluid.

**SHUKRA AS RETAS-** The term *Retas* is derived from root "*Ri-Ksharane*" which means to flow and is defined as the substance which flows out of the body during sexual intercourse.<sup>13</sup> *Sushruta* while describing *Vajee-karana* uses the term *Retas* which is implied in the sense of semen.<sup>14</sup>

*Charaka* and *Vagbhata* forbid holding the urge to ejaculate *Retas*, in this context *Retasobviously* means semen.<sup>15</sup> The physical characteristics of *Retas* mentioned by *Charaka* match exactly with that of semen.<sup>16</sup> There are many examples where *Shukra* and *Retas* are quoted as two different entities; hence *Retas* signifies semen and *Shukra* denote a broader concept incorporating *Retas*.<sup>17</sup>

**SHUKRA AS VEERYA-** The term *Veerya* is derived from root "*Vira Virkrante*" which means Victorious<sup>18</sup>. *Hemadri* com-

ments that “*Shaktyautkarshe Veerya Shabda Loke Api Prasiddha*”<sup>19</sup> which is commonly used in vernacular language to denote strength. *Charaka* and *Sushruta* define *Veerya* is the part of the substance by virtue of which it manifests its action<sup>20</sup>. The term *Veerya* is also used to mean potency<sup>21</sup>, so *Veerya* signifies various factors responsible for sexuality and secondary sexual characteristics. *Charaka* considers *Veerya* as subject of inference<sup>22</sup> which can be drawn on the basis of *Utthana*. *Chakrapani* comments on *Utthana* as undertaking of any work and Monier Williams defines it as act of standing up.<sup>23</sup>

In the present context, *Utthana* can be taken to mean erection. Therefore from the above discussion for the purpose of clarity we may assume that *Shukra* denotes whole testicular and accessory gland secretion i.e. semen and androgens. Hence, *Retas* has been specifically used for ejaculate and *Veerya* for androgens.

**SHUKRA IN FEMALE-** Human body is made up of Seven *Dhatu*s and the last being the *Shukradhatu*; therefore the women should also possess *Shukradhatu* in their body. According to classics *Shukra* in female is not capable of *Garbhottpadana*<sup>24</sup> as in males, but *Stree* also ejaculate *Shukra* during the act of coitus. According to modern science the only fluid sequestered forcibly at the onset of orgasm which fill the glandular vestibularis major (bartholien glands) when these glands begin to secrete immediately sexual excitement manifests<sup>25</sup>. According to *Sushruta* appearance of axillary and pubic hair and breast changes in females is due to *Shukra*<sup>26</sup>.

Androgens are continuously secreted by adrenal cortex in both male and females. Much of the growth of the public and axillary hair in the female probably results from the action of these hormones.

From the above discussion we can infer *Stree Shukra* as some glandular secretions along with hormones.

## CONCLUSION

After this discussion it is conclude that

1. Sukradhatu is present in all over body.
2. *Sukradhatu* has *garbhotpadak* property and sperm also so we can compare it.
3. Function of *Sukradhatu* is *harsh, pree-ti*, etc can be correlated with hormonal activity.

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