CONCEPT OF MALE INFERTILITY IN AYURVEDA W.S.R TO OLIGOSPERMIA AND AZOOSPERMIA

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ABSTRACT
Infertility is defined clinically in women and men who cannot achieve pregnancy after one year of having intercourse without using birth control. Many different conditions and other factors can contribute to fertility problem out of these Oligospermia and Azoospermia are present in many more cases. Oligospermia is the male infertility issue defined as low sperm concentration in the ejaculation. As per World Health Organization (WHO), a low sperm count is less than 20 million sperm/ml. Normal sperm count varies from 20 to 150 million sperm per milliliter. Azoospermia is the condition where there is complete absence of sperm in the semen, with resultant infertility. The present article explains about Oligospermia, Azoospermia and related terms in Ayurveda like Kshinretasa, Alparetasa, BijopghatShandtva, DoshajaShandtva, Nirbeej etc.

Keyword: (Klaibya, Shanda, Alparetasa, Kshinretasa, Dushtaretasa)

INTRODUCTION
Male without progeny is blamed as tree without fruit. Overall, 1/3 of infertility cases are caused by male reproductive issue, 1/3 by female reproductive issue and 1/3 by both male female reproductive issues or by unknown factors. In about 50% of cases, the cause of male infertility cannot be determined. A complete lack of sperm occurs in about 10% to 15% of men who are infertile. In some cases of infertility a man produces less sperm than normal. Normal sperm count is 20 to 150 million sperm per milliliter (¹). The most common cause of this condition is varicocele is present in about 40% of men with infertility. Ayurveda also explained in detail about infertility, its cause’s path physiology, treatment under the head of Vajikarana. In Ayurveda various terms related to infertility are explained like Klaibya, Napunsaka, Shanda which are indicative of impotency and the condition like Shukradosha, Shukradoshjaklaibya, Alparetasa, Kshinaretasa are related terms with infertility.

AIM
- To study the terms Oligospermia and Azoospermia from modern medicine literature.
- To co-relate above mentioned terms with Ayurvedic concepts.
MATERIAL AND METHOD

- All classical text available in the modern and Ayurvedic literature is reviewed.
- Database available after net surfing, modern text and various research articles was also reviewed.

REVIEW OF LITERATURE

a. Oligospermia modern view

Oligospermia or synonymously Oligozoospermia is a condition in which sperm count is reduced. Etymological origin of the word Oligozoospermia is as: Oligo(few)+Zoo(live)+Sperm+la (Condition). So, this is a condition in which sperm count will be less than 20mil/ml. (WHO1992). Now WHO reassessed sperm criteria and establish a lower reference point less than 15 million/ml. This condition occurs due to etiological factors which hamper Spermatogenesis and also blockage in path, which conveys sperms from testis to outside. (2)

Major causes of Oligospermia (3)

1) Congenital: Cryptorchidism or undescended testis incidence about 0.2 of male population.
2) Thermal: Scrotal temperature should be less than 2°F from core body temperature. Raised scrotal temperature may depress the spermatogenesis because it is sensitive process which alters with alteration in temperature. The temperature of scrotum will be raised in condition like varicocele, Hydrocele and Filariasis. Moreover working near hot zone and wearing of tight undergarments may depress spermatogenesis.
3) Infection: Infection like Syphilis, Non-specific urethritis, Mumps, Orchities after pubertal period may permanently arrest spermatogenesis.
4) Genetic: Klinefelters syndrome and XX male syndrome are two genetic defects which lead to defective spermatogenesis.
5) Endocrine: Hypopituitarism, Hypothyroidism, Adrenal hyperplasia can also cause the disease Oligospermia.
6) Sexual: Too frequent intercourses decrease the spermatogenesis and sperm cell activity.
7) Systemic disease: AIDS lowers the degree of spermatogenesis, renal factor, Cirrhosis of liver, Diabetes Mellitus causes low testosterone level. Vitamin A deficiency also causes reduction in spermatogenesis.
8) Addiction: Alcohol is the most important Leydig cell toxin. Tobacco addicts like smoker, chewers and multiple addicts will have below normal sperm count.
10) Psychological: Increased stress condition also produces low quality of semen.

b. Azoospermia modern view (4)

Azoospermia is the medical condition of male not having any measurable level of sperm in his semen. It is associated with very low level of fertility or even sterility. In humans Azoospermia affects about 1% of the male population and may be seen in up to 20% of male infertility situation.

Classification

Azoospermia can be classified into three major types.
1. Pre-testicular Azoospermia.
2. Testicular Azoospermia.
3. Post-testicular Azoospermia.

1) Pre-testicular Azoospermia

Pre-testicular Azoospermia is characterized by inadequate stimulation of testicles other-
wise normal testicles and genital tract. Typically follicle stimulating hormone level are low (Hypogonadotropin) commensurate with inadequate stimulation of testes to produce sperm e.g. Hypopituitarism, hyperprolactemia. Pre-testicular Azoospermia is seen in about 2% of Azoospermia.

2) Testicular Azoospermia
In testicular Azoospermia the testis are abnormal, atrophic or absent and sperm production severely disturbed to absent. FSH level tend to be elevated (hypergonadotrophic) as the feedback loop is interrupted. The condition is seen in 49-93% of men with Azoospermia.

Testicular failure includes absence of production as well as low production and maturation arrest during the process of spermatogenesis.

Causes of Testicular Azoospermia:
1. Congenital issues such as Klinfelters syndrome.
2. Orchitis.
3. Trauma.
4. Generally men with unexplained hypergonadotrophic azoospermia need to undergo a chromosomal evaluation.
5. Neoplasms.
6. Mumps, Malaria, Cryptorchidism.

3) Post-testicular Azoospermia
In post-testicular Azoospermia sperm are produced but not ejaculated, a condition that affect 7-51% of Azoospermic men.

Causes of Post-testicular Azoospermia:
1. The main cause is physical obstruction (Obstructive Azoospermia). The most common reason is vasectomy done to induce contraceptive sterility. Other obstruction can be congenital e.g. agenesis of vas deferens, ejaculatory duct obstruction due to infection.
2. Ejaculatory disorder includes retrograde ejaculation and an-ejaculation, in this condition sperm are produced but not ejaculated.

Ayurvedic view
After careful review of Ayurvedic compendia, it is noticed that terms like Klaibya, Napunsaka, Shanda are used synonymously to indicate impotency. But terms like KshinRetasa, AlpaRetasa, DushtaRetasa, ShukradoshajaKlaibya, Bijopghata- Shandtva reflect male infertility concept. According to Charaka, Shandtva is covered under Klaibya where in Nirbija is said to be one of the condition. According to SushrutaBijopghatajashandtva covers a wide range of condition related to infertility. They also explains that repeated indulgence in sex without following the regimen laid down in classics lead to regression of ShukraDhatu which further results in Klaibya. Sushrutacharya quoted terms like AlpaRetasa, KshinaRetasa, DushtaRetasa while defining the Vajikaran-Tantra in Sutrasthana.

a. DoshajaShandtva: This condition is due to vitiation of Shukra by Tridoshas. There are eight such a conditions enumerated by Charaka and Sushruta which lead to infertility. Excessive intake or certain dietary factors like Katu-Amla-LavanaAtisevana are responsible for the vitiation of smooth tissue(soumyadhatukshaya) and may lead to infertility due to state of low quantity of shukard. Bhavamishara considered that above factor may lead to Pittavruddhiresulting in Shukrakshaya.

b. VyadhijanitaShandtva: Some diseases like Medhrarogas, Marmacheda, Rajayakshama and Vataroga are involved with Shu-
kraksaya because these diseases occurs due to Dhatukshaya(6).

c. JarasambhavaJaShandtva: The Vridhadvasta (old age) leads to Shukrakshaya and Dhatukshaya. It may also occur due to Avarshyasevana. It is characterized by Dhatukshaya, Durba, Viviala, Vyadhishambha(7) etc. In Vridhadvasta there is naturally VataprakopaAvstha due to this there is Dhatukshaya because except Asti Dhatu other Dhatu are predominantly made from Kaphadosha. So due to Vata-vidhi and Kaphakshaya leads to Dhatukshaya and shukrakshaya.

d. Shukrakshayahaklaibya:Sushruta quoted that repeated indulgence in sex without following the regimen laid down in the classics may lead to regression in ShukraDhatu which result in Klaibya(8). It is the condition due to low quantity of sperm and it further lead to impotency.

DISCUSSION
Like modern medicine Ayurveda explain terms which are related directly with oligospermia such as Shukarakshaya, Kshinaretasa, Alparetasa etc. DoshajaShandtva, which lead to shukrarakharya due to vitiation of dosha. Vyadhijanishandatva in which due to some disorders person becomes weak and it lead to low sperm count i.e. Shukrakshaya due to VyadhijanitaDhatukshaya. Modern medicine also explained some diseases which lead to Oligospermia i.e Shukrskshaya e.g Varicocele, disease of testicles etc. Some terms like Nirbeeja and Abeeja(9) are quoted by AcharyaSushruta and Vagbhata during explanation of Napunaskalakshana, dushata-shukra respectively. Nirbeeja(10) meaning complete absence of Shukra, while explaining AbeejaVagbhata given explanation as one which is incapable of producing embryo. Acharya Sushruta also explains term Sashukra and Ashukrashanda where Ashukra means absence of Shukra. But no any single term is directly related to Azospermia. Meaning of these terms indicates about Azospermia.

CONCLUSION
In Ayurveda, AcharyaSushruta while defining the Vajikarana –tantra quoted the terms like Kshinaretasa, Alparetasa, indicating towards Oligospermia. Some other terms Shukarakshaya, Kshinashukara also indicate Oligospermia. There is no any clear cut explanation regarding the term Azospermia but at one point during explaining DoshajashandatvaacharyaVagbhata in Ashtangangraha quoted term Abija that means incapable of producing embryo. Sushruta quoted terms Nirbeeja, Ashukrashanda which are indirectly related to Azospermia.

CORELATION BETWEEN MODERN AND AYURVEDIC CONCEPT

<table>
<thead>
<tr>
<th>Modern view</th>
<th>Ayurveda view</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Oligospermia</td>
<td>DoshajaShandtva, VyadhijanitaShandtva.</td>
</tr>
<tr>
<td>2) Pre-testicular Azoospermia</td>
<td>Doshaja(Vatadoshaja) Shandtva.</td>
</tr>
<tr>
<td>3) Testicular Azoospermia</td>
<td>SahajaShandtva, BijopghatajaShandtva.</td>
</tr>
<tr>
<td>4) Post-testicular Azoospermia</td>
<td>SahajaShandtva, VatadoshajaShandtva.</td>
</tr>
</tbody>
</table>

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