



Case Study

EFFECT OF APATYAKARA GHRITA FOLLOWED BY KOSHTHA SHUDDHI WITH HARITAKYADI CHURNA IN THE MANAGEMENT OF KSHEENA SHUKRA W.S.R. TO OLIGOZOOSPERMIA: A CASE STUDY

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ABSTRACT

Oligozoospermia is a condition where sperm count is below 15 million/ml and a common finding which is related to male infertility. Some of the known responsible factors for male infertility are poor semen quality, genetic factors, testicular dysfunction and endocrine inter relationship etc. According to Ayurvedic classics, Oligozoospermia can be correlated with *Ksheena Shukra* which is due to increased *Vata* and *Pitta Dosha* being more prevalent in *Madhyama Vayas*. According to WHO, in India, the overall prevalence of primary infertility ranges between 3.9% and 16.8%. **Methods:** In this study, a male patient aged 40 years was presented with a desire to get a child and other associated symptoms were *Daurbalya* (weakness), *Mukha Shosha* (dryness of the mouth), *Sadana* (loss of rigidity), *Shrama* (post act exhaustion), *Alpachestata* (early ejaculation), *Maithune Ashakti* (problematic or not satisfactory coitus), *Rati Anabhimukhata* (loss of sexual desire) etc. The patient was managed with *Apatyakara Ghrita* followed by *Koshtha Shuddhi* with *Haritakyadi Churna*. For the assessment of the effect of therapies on sexual parameters, the scoring pattern prepared by Mehra & Singh, 1995 and Seminal Parameters has been adopted. **Results and Conclusion:** *Apatyakara Ghrita* is found effective to increase sperm count from 12 million/ml to 45 million/ml and motility from 20% to 75% and no adverse effect of the adopted management was seen during treatment and even after the 2 months of follow-up.

INTRODUCTION

According to WHO, Oligozoospermia is a condition where sperm count is below 15million/ml^[1] and a common finding which is related to male infertility. Infertility is defined by the inability of a couple to achieve parenthood, even after one year of coital activity without contraception.

Some of the known responsible factors for male infertility are poor semen quality, genetic factors, testicular dysfunction and endocrine inter relationship etc.^[2]

Among these, Oligozoospermia contributes as one of the major factors of male infertility. The drastic changes in day-to-day activities including lifestyle, food habits, sexual life, increase in environmental pollution, industrial and occupational hazards have contributed to the increased incidence of Oligozoospermia.

According to Ayurvedic classics, *Garbhotpadana* is a vital function of *Shukra dhatu*. *Acharya Charaka* has described characteristic features of fertile *Shukra dhatu*, i.e., *Shukra* should be *Bahu* (abundant in quantity), *Bahala* (thick and viscous in consistency), *Madhura* in *Rasa*, *Madhu* like *Gandha*, *Guru* (heavy) in *Guna* and *Shukla* in *Varna*.^[3] Thus Oligozoospermia can be correlated with *Ksheena Shukra* i.e., one of the *Retodushti* which is due to increased *Vata* and *Pitta Dosha*^[4] being more prevalent in *Madhyama Vayas*, a disease from *Apana Vata* province, which incapacitates man from conceiving his life partner, ending in infertility.

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As per the WHO estimated 60-80 million couples (8-12%) worldwide currently suffer from infertility. In India the overall prevalence of primary infertility ranges between 3.9% and 16.8%.^[5] It was reported that 40% of infertility cases were related to men, 40% to women, and 20% to both sexes.^[6] Keeping this point in mind a case study was done on Oligozoospermia (*Ksheena Shukra*) discussed here.

Case Description

A 40 years old Hindu male patient, registration no.-70597, residing in Jaipur, was visited *Kayachikitsa* OPD of *Arogyashala*, National Institute of Ayurveda (Deemed to be University), Jaipur on 22nd January 2021, presented with chief complaints of desire to achieve child and other associated symptoms were *Daurbalya* (weakness), *Mukha Shosha* (dryness of the mouth), *Sadana* (loss of rigidity), *Shrama* (post act exhaustion), *Alpachestata* (early ejaculation), *Maithune Ashakti* (problematic or not satisfactory coitus), *Aharsana* (weak penis erection) and *Rati Anabhimukhata* (lack of sexual desire). All these symptoms started since last 5 years. In this period patient consulted many Allopathic & Ayurveda physicians and got some relief in associated complaints, but was not fully satisfied. Based on all symptoms and semen analysis patient was diagnosed as a case of *Ksheena Shukra* and Oligozoospermia according to modern view.

General Examination

Pallor/Icterus/Cyanosis/Clubbing-absent, Lymphadenopathy- non-palpable, Edema- absent,

BP- normal blood pressure observed 120/80 mm of Hg and Pulse rate- 78/min regular.

Systemic Examination

RS- no abnormality detected in Respiratory system, CVS - no abnormality detected in Cardiovascular system, P/A- soft, non-tender abdomen, no hepatic-splenomegaly felt on palpation, CNS- mental functions were intact moderately.

Personal History

Appetite- normal, Sleep- disturbed, Bowel habit- constipated, 1 time/day, Micturition- normal, Diet- vegetarian, Addiction- tobacco chewing,

History of Past Illness

No H/o- HTN/ DM/ TB/ COPD/ Typhoid fever/ Mumps/ Orchitis/ Allergy to specific allergen/ Renal failure/ Hepatic dysfunction, No h/o any surgery.

Local Examination

Skin of prepuce was normal, both testes were well placed and distended, hygiene was properly maintained, no any abnormality such as varicocele, edema was detected.

Ayurvedic Examination

Astavidha Pareeksha: *Nadi*-78/min, *Mootra-Prakrita*, *Mala- Saama*, *Jihwa*- coated, *Shabda-Prakrita*, *Sparsha* - *Samanya*, *Drik- Prakrita*, *Akriti* - *Prakruta*.

Dashavidha Rogi Pariksha: *Prakriti: Vata pittaja*, *Vikriti: Dosh-Vata, Pitta*, *Dushya: Rasa, Shukra, Sara-Samhanana- Pramana- Satmya- Satva: Madhyama*.

Table 1: Showing Semen Analysis Before Treatment on Dated 22nd January, 2021

pH	Alkaline
Total Sperm Count	12 millions/ml
Active Motile sperms	20%
Non Motile Sperms	60%
Sluggish	20%
Normal Forms	60%
Abnormal Forms	40%
Pus cells	2-3/ HPF
Epithelial cells	1-2/ HPF
Colour	Milky White
Volume	2ml
Liquefaction time	30 min
Viscosity	Normal

Table 2: Showing Assessment Criteria for Subjective Parameters^[7]

S. No.	Symptoms	Grade	Features
1.	Sexual desire	0	Self and partner normal desire
		1	Desire only in demand of partner
		2	Lack of desire
		3	No desire at all
2.	Erection	0	Full swelling whenever desire
		1	Erection with occasional failure
		2	Some swelling, able to penetrate
		3	Very slight swelling but unable to penetrate
		4	Erection with an artificial method
		5	No erection or swelling without any methods
3.	Ejaculation	0	During sexual intercourse >60 sec / at least >10 pelvic thrusts
		1	During sexual intercourse < 60 sec / at least 5-10 pelvic thrusts
		2	During sexual intercourse < 30 sec / at least 5-10 pelvic thrusts
		3	Before penetration
		4	During foreplay
		5	On mere thoughts / slight or no ejaculation at all
4.	Feeling after sex	0	Satisfaction after every act
		1	Satisfaction in 75% act
		2	Satisfaction in 50% act
		3	Satisfaction in 25% act
		4	No satisfaction after every act
5.	Performance anxiety	0	No anxiety at all
		1	Slight anxiety, does not hamper sexual act
		2	Anxiety that hampers in 25% of encounters
		3	Anxiety that hampers in 50% of encounters
		4	Anxiety that hampers in 75% of encounters
		5	Anxiety that hamper in almost all the encounters
6.	Post act Exhaustion	0	No exhaustion at all
		1	Slight exhaustion occasionally
		2	In 25% of the encounters
		3	In 50% of the encounters
		4	In 75% of the encounters
		5	After every sexual act
7.	Feeling of partner after sex	0	Satisfaction after every act
		1	Satisfaction in 75% act
		2	Satisfaction in 50% act
		3	Satisfaction in 25% act
		4	No satisfaction after every act

8.	<i>Daurbalya</i> (weakness)	0	No weakness
		1	Slight weakness
		2	Weakness but routine work not affected
		3	Weakness and routine work affected
		4	Can't do any work
9.	<i>Mukhashosha</i> (dryness of the mouth)	0	No dryness of mouth
		1	Dryness relieved by anything putting in the mouth
		2	Dryness not relieved by anything putting in the mouth

Treatment Plan

Apatyakara Ghrita^[8]

Table 3: Ingredients of *Apatyaka Ghrita*

S. No.	Name of drug	Latin name	Part used
1	<i>Shatavari</i>	<i>Asparagus recemosus</i> Willd	Root
2.	<i>Vidarikanda</i>	<i>Pueraria tuberosa</i> DC.	Rhizome
3.	<i>Maasha</i>	<i>Phaseolus mungo</i> Linn.	Seed
4.	<i>Kapikachchhu</i>	<i>Mucuna prurita</i> Hook	Seed
5.	<i>Gokshura</i>	<i>Tribulus terrestris</i> Linn.	Seed
6.	<i>Goghrita</i>	<i>Butyrum deparatu</i>	-
7.	<i>Godugdha</i>	Cow's milk	-
8.	<i>Sharkara</i>	<i>Saccharum officinarum</i> Linn.	-
9.	<i>Madhu</i>	<i>Mal depuratum</i>	-

Method of Preparation

The drug was prepared in GMP-certified N.I.A. Pharmacy, Jaipur. *Ghrita* along with the above mentioned drugs were prepared according to the instruction given in *Ghrita Kalpana (Sharangdhara Samhita Madhyama Khanda 9/1)*. (Batch No. C251)

- Dose: 10ml
- Dose form: *Ghrita kalpana*
- *Anupana*: Lukewarm milk
- Route of administration: Oral
- Time of administration: Once a day, before a meal in morning
- Duration of Therapy: 60 days

Haritakyadi Churna ^[9]

Table 4: Ingredients of *Haritakyadi Churna*

S. No.	Name of drug	Latin name	Part used
1.	<i>Haritaki</i>	<i>Terminalia chebula</i> Retz.	Fruit
2.	<i>Saindhava</i>	Sodium chloride	-
3.	<i>Amalaki</i>	<i>Embllica officinalis</i> Gaertn.	Fruit
4.	<i>Guda</i>	Jaggery	-
5.	<i>Vacha</i>	<i>Acorus calamus</i> Linn.	Root
6.	<i>Vidanga</i>	<i>Embelia ribes</i> Burm.	Fruit
7.	<i>Haridra</i>	<i>Curcuma longa</i> Linn.	Rhizome
8.	<i>Pippali</i>	<i>Piper longum</i> Linn.	Root
9.	<i>Shunthi</i>	<i>Zingiber officinale</i> Roxb.	Rhizome

Method of Preparation

The drug was prepared in GMP-certified N.I.A. Pharmacy. *Churna* of the above-mentioned drugs was prepared according to the instruction given in "*Churna Kalpana*" (*Sharangdhara Samhita Madhyama Khanda 6/1*). (Batch No. C251)

- Dose: 6 gm
- Dose form: *Churna kalpana*
- *Anupana*: Lukewarm water
- Route of administration: Oral
- Time of administration: at night, after a meal
- Duration of Therapy: 7 days

OBSERVATION AND RESULT

Relief was obtained excellently in all symptoms such as *Daurbalya* (weakness), *Mukha Shosha* (dryness of the mouth), *Sadana* (loss of rigidity), *Shrama* (post act exhaustion), *Alpacheshyata* (early ejaculation), *Maithune- Ashakti* (problematic or not satisfactory coitus), *Aharsana* (weak penis erection) and *Rati Anabhimukhata* (lack of sexual desire) showing in Table no. 5.

Relief was also obtained excellently in semen analysis such as sperm count, active motile sperms, non-motile sperms, sluggish, normal forms, abnormal forms, pus cells, volume, and liquefaction time showing in table no. 6.

Table 5: Showing Results in Subjective Parameters

S. No.	Symptoms	Grade before treatment	Grade after treatment	Result in Percentage
1.	Sexual desire	2	0	100 %
2.	Erection	2	0	100 %
3.	Ejaculation	2	0	100 %
4.	Feeling after sex	4	1	75 %
5.	Performance anxiety	5	1	80 %
6.	Post act Exhaustion	4	1	75 %
7.	Feeling of partner after sex	4	1	75 %
8.	<i>Daurbalya</i> (weakness)	3	0	100 %
9.	<i>Mukhashosha</i> (dryness of the mouth)	2	1	50 %

Table 6: Showing Semen Analysis after Completion of Treatment on Dated 1st April, 2021

pH	Alkaline
Total Sperm Count	45millions/ml
Active Motile Sperms	75 %
Non Motile Sperms	10 %
Sluggish	15 %
Normal Forms	95 %
Abnormal Forms	05 %
Pus cells	1-2/ HPF
Epithelial cells	1-2/ HPF
Colour	Milky white
Volume	2.5ml
Liquefaction time	Complete
Viscosity	Normal

DISCUSSION

Infertility is a social stigma, affects sexual life, social functioning, and psychological harmony. In males, the aim is to improve seminal parameters and sperm concentration in a particular manner. According to *Acharya Charaka* the person who is infertile likes *Nindya* and compared to the tree without branches.^[10]

Due to *Aharaja Nidanas*, *Viharaja Nidanas* and Psychological factors *Vata* and *Pitta Dosha* get provoked are responsible for its manifestation of *Shukrakshaya*.^[11]

According to modern medical science the management of infertility includes hormonal supplementation and assisted reproductive techniques, those are costly and have very low success rate in conception. The Special branch of *Ayurveda* called *Vajeekarana* can contribute something to solve this problem.

Discussion on *Apatyakara Ghrita*

Apatyakara Ghrita contains the drugs like *Shatavari*, *Vidarikanda*, *Maasha*, *Kapikachchhu*, *Gokshura*, *Goghrita*, *Godugdha*, *Sharkara* and *Madhu*.

Most of the drugs were *Madhura rasa* predominant. Hence pacifies *Vata* and *Pitta dosha* which are responsible for *Ksheena Shukra*. Among the drugs, *Shatavari* having *Tikta rasa* and *Sheeta veerya*, pacifies *Pitta* and by the virtue of its *Snigdhatva* pacifies *Vata dosha*. *Kapikachchhu beeja* is *Shukravardhaka* by under its *Srotorodhahara* property by *Ushna*, *Shlakshna* and *Snigdha guna*. *Gokshura* is *Balya* for *Apana sthana* and pacifies *Kupita Vata* by the virtue of its *Sheeta*, *Snigdha guna*, *Madhura rasa* and *Madhura vipaka*. *Vidarikanda*, *Maasha*, *Goghrita* and *Sharkara* are having *Madhura rasa*, *Snigdha*, *Pichchhila guna* which lead to the formation of *Shukra dhatu* by *Rasadi dhatuposhana karma*. They have *Brimhana*, *Balya*, *Ojovardhaka* and *Rasayana* effect on *Shareera dhatu*. *Anupana* of *Apatyakara Ghrita* is *Godugdha* which is *Sheeta*, *Viryavardhaka*, *Brimhnana*, *Ojovardhaka*, *Shrama-Glani-Pipasahara*.

As per another research book it was proved that *Shatavari* has Antioxytoxic properties,^[11] *Vidarikanda* has Progestrogenic, Anti-implantation, Oestrogenic properties,^[12] *Kapikachchhu* has Anti-inflammatory, Aphrodisiac, Nervine- tonic properties,^[13] and *Gokshura* has FL-Cells activating properties.^[14]

The effect of *Apatyakara Ghrita* was enhanced by *Koshtha Shuddhi* by *Haritakyadi Churna* with lukewarm water at night before to the drug administration and contains of *Haritakyadi Churna*

such as *Haritaki*, *Saindhava*, *Amalaki*, *Guda*, *Vacha*, *Vidanga*, *Haridra*, *Pippali* and *Shunthi*.

Samanya Visheshha Siddhanta of *Ayurveda* is useful in the treatment of *Ksheena Shukra*. It increases mainly sperm count, motility and acts as a restorative nutrient for the central nervous system by supporting the healthy production of the sex hormones.

CONCLUSION

Ksheena Shukra is characterized by a decrease in the concentration of *Shukra* quantitatively as well as qualitatively due to vitiation of *Vata* and *Pitta Dosha*. *Ksheena Shukra* can be compared with Oligozoospermia in terms of modern medical science, with limited treatment modalities.

Findings of the present clinical study reveal that, *Vishamagni*, *Vishamashana*, Sleep curtailment, Excessive intake of *Lavana*, *Amla*, *Kshara* and psychological disturbances are the prime causative factors for manifestation of *Ksheena Shukra*.

In the present case study, *Apatyakara Ghrita* followed by *Koshtha Shuddhi* with *Haritakyadi Churna* provided statistically significant improvement on semen analysis and all symptoms. Hence it can be concluded that *Apatyakara Ghrita* followed by *Koshtha Shuddhi* with *Haritakyadi Churna* is safe and effective in the management of *Ksheena Shukra* (Oligozoospermia).

- Written informed consent was obtained from the patient to publish their data.

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