

## A COMPARATIVE CLINICAL STUDY OF VAJEEKARANA GHRITA AND SHATAVARYADI YOGA IN THE MANAGEMENT OF KSHEENA SHUKRA (OLIGO-ASTHENOZOOSPERMIA)

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### ABSTRACT

*Ksheena Shukra* (Oligo-asthenozoospermia) is the disorder in which there is *Kshaya* of *Shukra dhatu* in the body, *Ksheena Shukra* is explained as one of the *Ashta Shukradusthi*, where *Vata dosha* along with *Pitta*<sup>2</sup> undergo vitiation and the impact of this is infertility. The inability to procreate i.e. infertility is such a condition, which severely affects the couple's psychological harmony, sexual life, and social stigma and ultimately leads to separation from life partner and many a time to suicide. Male factors appear to be increasingly recognized as a cause of infertility. Records show that the average male sperm count in 1950 was 113 million/ml. By 1998 this had declined to 62 million/ml and the average is believed to be sinking even lower year-by-year. For the management of *Ksheena Shukra* w.s.r to Oligo-asthenozoospermia, *Vajeeekarana Ghrita* and *Shatavaryadi Yoga* has been taken for the comparative study for all round treatment of *Ksheena Shukra* as both of these are *Vajeeekarana*, *Rasayana*, *Balya*, *Medhya* and ensures the quality and quantity of *Shukra* and the dose fixed is *Vajeeekarana Ghrita (VG)* 24 ml twice daily with hot water as *Anupana* and *Shatavaryadi Yoga (SY)* 6 gm bid with *Ghritha* and sugar as *Anupana* for 12 weeks. It is an open label comparative clinical study with pre-test and post-test design where minimum of 20 patients diagnosed with clinical condition *Ksheena Shukra* (Oligo-asthenozoospermia) were selected between age group of 25- 40 years of age. Both *Shatavaryadi Yoga* and *Vajeeekarana Ghrita* were found to be useful in the

management of *Ksheena Shukra*. Sperm count, motility, volume, viscosity, pH, liquefaction time and all other different sexual parameters showed improvement therapeutically with both *Yogas*.

**Keywords:** *Ksheena Shukra, Oligo-asthenozoospermia, Male Infertility, Vajeeekarana Ghrita, Shatavaryadi Yoga.*

## INTRODUCTION

Since old days the emphasis on getting a child is considered as highest duty. To produce an offspring is a dream of every married couple, since time immemorial mankind put a lot of emphasis on producing an offspring. *Ayurveda* also agrees the factor of getting a child, like any other literatures of Indian philosophy. *Ksheena Shukra*<sup>1</sup> is described under *Ashta Shukradushti*, where *Vata dosha* along with *Pitta*<sup>2</sup> undergo vitiation, causing the *dooshana* of *Shukravaha Srotas*, which incapacitates normal individual from conceiving his life partner, ending in infertility. According to *Acharya Charaka*<sup>3</sup> the person who is infertile is said to be '*Nindya*' and compared to a tree without branches. Infertility affects the psychological harmony, sexual life and social function of the couple. The incidence of male infertility is about 50% of infertile couples. It may vary from place to place, nation to nation but magnitude of the problems remains the same. The agony, sorrow of infertile patients remains almost same even today. *Ksheena Shukra* (Oligo-asthenozoospermia) is the disorder in which there is *kshaya* of *Shukra dhatu* in the body due to the change in dietary conditions, lifestyle, stress, injury and other disorders like Hormonal Imbalance, Orchitis, Mumps, varicocele etc. and the impact of this is infertility. About 8% to 10% of couples of reproductive age experience infertility, and in approximately 40% of these cases male infertility is the major factor. Another 40% of infertility problems are caused by abnormalities of the woman's reproductive system, and the remaining 20% involve couples who both suffer reproductive difficulties. Male infertility cases increasing day by day because of the changing trends of modern life, food, stress, strain, the habits added to age, infectious and iatrogenic factors, overall disturbing the Hypothalamo-Pituitary Testicular axis and gametogenesis. There seems to be a direct relationship between mod-

ern lifestyles and declining male fertility and the statistics are frightening.

Considering the widespread depth of causing innumerable problems this condition should be treated at every level, hence *Vajeeekarana Ghrita*<sup>4</sup> and *Shatavaryadi Yoga*<sup>5</sup> has been taken for the comparative study for all round treatment of *Ksheena Shukra* as both of these are *Vajeeekarana, Rasayana, Balya, Medhya* and ensures the quality and quantity of *Shukra*.

**Objectives:** To evaluate therapeutic efficacy of *Vajeeekarana Ghrita* and *Shatavaryadi Yoga* individually and to compare their efficacy in the management of *Ksheena Shukra* (Oligo-asthenozoospermia).

### Materials and Methods:

- a. **Study Design:** It is an open label comparative clinical study with a pre and post-test design
- b. **Source of The Data:** Male Patients attending O.P.D. & I.P.D. of S.D.M. Ayurveda Hospital, Udupi, fulfilling the inclusive criteria of *Ksheena Shukra* (Oligo-asthenozoospermia) between age group of 25- 40 years of age.
- c. **Method of Collection of the Data:** 20 patients of age between 25 to 40 years with clinical condition of *Ksheena Shukra* and fulfilling the diagnostic criteria of Oligo-asthenozoospermia, were selected randomly and allocated 10 each into 2 groups as *Vajeeekarana Ghrita (VG) Group* and *Shatavaryadi Yoga (SY) Group*. Patients were examined clinically and detailed history regarding disease, partners health, extra marital relation and relevant lab investigations, were recorded in specially prepared proforma. The semen analysis was done as per W.H.O. guidelines.
  1. **Criteria for Patient Selection:** Patients having *Ksheena Shukra Lakshana* and with Oligo-asthenozoospermia confirmed by Laboratory report, were selected for the present study.
  2. **Inclusion Criteria**

- Male patients aged between 25 to 40 years suffering from primary and secondary infertility.
  - Patients with Oligospermia (5 million/ml – 20 million/ml),
  - Asthenozoospermia (0% - 50% motility).
- 3. Exclusion Criteria**
- Patients with systemic disorders like DM; HTN
  - Patients with S.T.D; AIDS
  - Patients with Varicocele.
- a. **Drug Source:** The required herbal formulations *Vajeeekarana Ghrita* and *Shatavaryadi Yoga* were prepared specially for the study in SDM Ayurveda pharmacy, Udupi.

## Drug Review

**Table 1:** Ingredients of *Vajekarana Ghrita*

Sl. No.	Name of the Drug / <i>Pratinidhi Dravya</i>	Botanical Name	Quantity
1.	<i>Masha</i>	<i>Phaseolous mungo</i>	16 Part (1 Adhaka)
2.	<i>Atmagupta</i>	<i>Mucuna pruriens</i>	16 Part (1 Adhaka)
3.	<i>Jivaka (Vidarikanda)</i>	<i>Pueraria tuberosa</i>	1 Part (1 Kudava)
4.	<i>Rishbhahka (Vidarikanda)</i>	<i>Pueraria tuberosa</i>	1 Part (1 Kudava)
5.	<i>Kakoli (Aswvagandha)</i>	<i>Withnia somnifera</i>	1 Part (1 Kudava)
6.	<i>Meda (Shatavari)</i>	<i>Asperagus Recemosus</i>	1 Part (1 Kudava)
7.	<i>Ruddhi (Varahikanda)</i>	<i>Pueraria tuberosa</i>	1 Part (1 Kudava)
8.	<i>Shatavari</i>	<i>Asperagus Recemosus</i>	1 Part (1 Kudava)
9.	<i>Yastimadhu</i>	<i>Glycerrhiza glabra</i>	1 Part (1 Kudava)
10.	<i>Ashvagandha</i>	<i>Withnia somnifera</i>	1 Part (1 Kudava)
11.	<i>Ghruta</i>		1 Prastha
12.	<i>Dugdha</i>		10 Prastha
13.	<i>Vidari swarasa</i>	<i>Pueraria tuberosa</i>	1 Prastha
14.	<i>Ikshurasa</i>	<i>Saccharum Officinarum</i>	1 Prastha
15.	<i>Sharkara</i>	<i>Ikshu vikara</i>	1 Pala
16.	<i>Vamshalochana</i>	<i>Bambusa arundinacea</i>	1 Pala
17.	<i>Madhu</i>		1 Pala
18.	<i>Pippali</i>	<i>Piper longum</i>	Pala

**Table 2:** Ingredients of *Shatavaryadi Yoga*

Sl. No	Name of the Drug	Botanical Name	Quantity
1.	<i>Shatavari</i>	<i>Asperagus Recemosa</i>	1 Part
2.	<i>Gokshura</i>	<i>Tribulus terrestris</i>	1 Part
3.	<i>Ashvagandha</i>	<i>Withnia somnifera</i>	1 Part
4.	<i>Punarnava</i>	<i>Boerhavia diffusa</i>	1 Part
5.	<i>Nagabala</i>	<i>Grewia hirsuta</i>	1 Part
6.	<i>Musali</i>	<i>Asperagus adscenden</i>	1 Part

## Intervention: (Drug-Dosage- Duration)

- *Koshta Shodhana* was done to all patients prior to the treatment, which is followed by the administration of duly prepared trial drugs.
  - The patients of *Ksheena Shukra* (Oligo-asthenozoospermia) were randomly divided in to two groups of 10 patients each
  - **VG Group:** administered with *Vajekarana Ghrita (VG)* 24 ml bid with hot water as *Anupana* for 12 weeks
  - **SY Group:** administered with *Shatavaryadi Yoga (SY)* 6 gm bid with *Ghruta* and sugar as *Anupana* for 12 weeks.
  - **Follow Up:** 6 weeks with 2 weeks interval.
- Assessment Criteria**

- The patients were assessed Subjectively with Clinical signs and Symptoms of Ksheena Shukra and Objectively with Laboratory Investigations of Oligo-asthenozoospermia, before and after the treatment.
- **Subjective (Clinical) Assessment:**
- Improvement in signs and symptoms of Ksheena Shukra
- improvement in sexual health parameters i.e. desire, erection, rigidity, ejaculation and orgasm were recorded and graded
- **Objective (Laboratory Investigations) Assessment**
- Semen analysis was carried out for Volume, Liquefaction, Viscosity, pH, Total sperm count, Motility, Total abnormal forms.

### Observations:

**Table 3:** Demographic profile of the patients of Ksheena Shukra

Sl. No	Observations	Maximum	VG Group	SY Group	Total	%	
1.	Age	31-35 years	3	5	8	40	
2.	Religion	Hindu	7	7	14	70	
3.	Occupation	Physical Exertion	6	7	13	65	
4.	Economic status	Middle Class	5	7	12	60	
5.	Education	High School	4	4	8	40	
6.	Prakriti	Pitta Kapha	5	4	9	45	
	Sara	Madhyama	8	9	17	85	
	Satwa		9	9	18	90	
	Samhanana		8	9	17	85	
	Vyayama shakti		7	7	14	70	
	Koshtha		4	4	8	35	
	Satmya		Katu Rasa	8	5	13	65
	Agni		Sama	5	6	11	55
	Desha		Anoopa	9	2	11	55
7.	Dietary habit		Mixed	9	8	17	85
8.	Marital lifespan	1-5	6	7	13	65	
9.	Sexual Life	Satisfactory	8	9	17	85	
10.	Addiction	Smoking	6	5	11	55	
11.	Ksheena Shukra	Primary Infertility	9	7	16	80	
12.	Associated complaints	Erectile Dysfunction	6	7	13	65	
13.	Exposure to Gonado-toxic agents	Ranitidine	5	6	11	55	

**Table 4:** No. of Patients with Ksheena Shukra Lakshana

Sl. No	Ksheena Shukra Lakshana	VG Group	SY Group	Total	%
1.	Daurbalya	7	9	16	80
2.	Shrama	8	6	14	70
3.	Mukhasosha	1	0	01	05
4.	Svarabhanga	0	0	00	00
5.	Angamarda	6	7	13	65
6.	Aruchi	0	1	01	05
7.	Avipaka	1	2	03	15
8.	Alpapraseka	3	1	04	20
9.	Garbhapata	1	2	03	15
10.	Dhumayana	0	0	00	00

## II. Results:

**Table 5:** Effect of Treatment on Subjective and Objective Parameters

Subjective Parameters	SY			VG		
	BT	AT	p Value	BT	AT	p Value
○ Sexual Desire	3.200	3.600	0.037	2.900	3.700	0.003
○ Orgasm	2.600	2.800	0.168	2.600	2.800	0.168
○ Rigidity	1.00	1.700	0.001	0.800	1.400	0.005
○ Erection	3.100	3.700	0.005	3.000	3.700	0.001
○ Ejaculation	2.900	3.800	0.041	2.900	3.000	0.0343
<b>Objective Parameters</b>						
▪ Volume	1.75	2.3	0.032	1.890	2.000	0.467
▪ pH	7.2	7.34	0.502	6.750	7.020	0.003
▪ Liquefaction Time	20.50	18.00	0.322	12.00	14.50	0.177
▪ Viscosity of Semen	1.9	1.7	0.168	2.100	1.800	0.081
▪ Sperm Count	10.400	20.300	0.174	10.800	15.150	0.349
▪ Active Motility	25.200	33.900	0.129	16.400	21.400	0.363
▪ Sluggish Motility	13.900	15.100	0.669	11.700	15.700	0.092
▪ Immotile Sperms	60.900	50.800	0.100	41.900	52.900	0.236
▪ Pus Cells	1.800	6.200	0.417	2.500	2.000	0.052

## DISCUSSION

Since old days the emphasis on getting a child is considered as highest duty. To produce an offspring is a dream of every married couple, since time immemorial mankind put a lot of emphasis on producing an offspring. Many references can be seen regarding the same in all Holy books of different religions. Ayurveda also agrees the factor of getting a child, like any other literatures of Indian philosophy. In *Ayurveda*, *Dharma*, *Artha*, *Kama* and *Moksha* are called as *Chaturvidha Purusharthas*<sup>5</sup> According to different references, getting a child is considered to be a part of normal adult life; pairs expect one another to join the parenthood and parents want the joy of becoming grandparents. Affection, strength pleasure, livelihood, spread of blood line, success and ultimate happiness, all rest in the offspring<sup>6</sup>.

Considering the widespread nature in the society and its depth of causing innumerable problems, thus the subject of *Ksheena Shukra* is selected as infertility has direct relationship with impairment in the semen i.e. *Beeja rupi Sukradusti*.

**Discussion on Yoga:** The drugs which manage the *Shukradusti* and improve fertility can be called as *Vrishya*. The *Vrishya Dravya* are classified as *Shukra Vriddhikara*, *Shukra Srutikara* and *Shukra Vriddhi-Srutikara*<sup>7</sup>. *Shukra Vriddhikara* drugs can be subdi-

vided into *Shukra Janaka* and *Shukra pravartaka*. Treatment of male infertility (Oligoasthenozoospermia) should be aimed at to increase sperm count and motility. Considering all these points the *Shatavaryadi Yoga* and *Vajikarana Ghrita* has been selected which are having properties of *Shukra Janaka* and *Shukra Pravartaka*.

**Probable action of Shatavaryadi Yoga & Vajikaran Ghrita:** By analyzing the *Rasa*, *Guna*, *Veerya*, *Vipaka*, *Doshaghna* and the described *Karma*, the probable action of *Shatavaryadi Yoga* and *Vajeeakarana Ghrita* on *Ksheena Shukra* can be analyzed as follows

a. Action on *Dosha*:

- The main *dosha* vitiated in *Ksheena Shukra* are *Vata* and *Pitta*. So, whatever may be the medication is necessary that it should pacify *Vata* and *Pitta*.
- In *Shatavaryadi Yoga*, out of the total 6 drugs, 4 drugs are *Vata Pittaghna*. So, 66.66% of the total combination becomes sufficient enough to act upon the Vitiated *Vata* and *Pitta*.
- In *Vajeeakarana Ghrita* out of the total 17 drugs, 11 drugs are reducing the *Vata Pitta*. So, 64.70% of the total combination becomes sufficient enough to act upon the Vitiated *Vata* and *Pitta dosha*. Thus, the preparations are becoming effective in the concerned subject.

- b. Action on *Agni* and *Ama*
- The status of *Dhatu* directly depends upon the *Agni*. It is the fact that *ama* involves in all the diseases. Thus, one should try to increase *Agni* and remove *amavastha*.
  - In the *Shatavaryadi Yoga*, *Ashwagandha* and *Punarnava* are possessing *Ushna Veerya* (33.33%) and in *Vajikarana Ghrita*, *Masha*, *Ashwagandha* and *Atmagupta* are possessing *Ushna Veerya* (17.64%) of the total combination, with which it is able to digest the *Ama* and also helps to ignite the *Agni*.
- c. Action on *Dushya* (*Shukra Dhatu*)
- The properties of the ingredients of *Shatavaryadi Yoga* are having a direct action upon the *Shukra Dhatu*. Almost drugs are having *Madhura rasa* (100%) and *Madhura vipaka* (83.33%). 66.66% of the combination is of *Sheeta Veerya*, 66.66% of drugs possess *Guru Guna*, 100% *Snighdha* while all 6 drugs are having *Shukrala* property (100%). 100% of the combination is *Vrishya*, 50% *Brimhana*. Almost all the drugs are *Balya* in nature (100%). 50% drugs possess *Rasayana guna*.
  - The properties of the ingredients of *Vajikarana Ghrita* are having a direct action upon the *Shukra Dhatu*. All the drugs (100%) are having *Madhura rasa*, and *Madhura vipaka*. 76.47% of the combination is *Sheeta Veerya*, 76.47% possess *Guru Guna*, 88.23% *Snighdha* while 9 drugs are having *Shukrala* property (88.23%), 100% of the combination is *Vrishya*, 47.05% *Brimhana*. Almost drugs are *Balya* in nature 29.41% possess *Rasayan guna*. All these properties of *Vajikaran Ghrita* and *Shatavaryadi Yoga* are ideal for **Beejarupi Shukra Dhatu vrudhi, which is the aim of treatment.**

d. Action on *Srotas*

*Srotoshodhana* by *Vajeeekarana Ghrita* and *Shatavaryadi Yoga* can be achieved due to the *Ushna Veerya*, and *laghu guna* properties. These properties help to remove the *upalepa* from the *srotas*. The commonly observed associated problems (*sarvadaihika*) like *Dourbalya*, *Shosha*, *shrama* etc. are sufficiently man-

aged by the properties like *brimhana*, *balya*, *pustiprada* etc. The libido is increased by *Vrishya* property (100%) of the combination. *Rasayana* properties removes *Klaibya*, *maithune ashakti* etc. Hence it can be concluded that the ingredients of the preparations of *Vajeeekarana Ghrita* and *Shatavaryadi Yoga* breaks the *Samprapti* of *Ksheena Shukra*.

## CONCLUSION

Finally, conclusion can be drawn on the basis of deductive reasoning of information obtained by clinical observations. Predominance of *Vata* and *Pittadosha* in predisposing disease *Ksheena Shukra* is collaborated clinically by its mode of presentation i.e., majority of the patient were from *madhyamvaya* (*Pitta pradhan avastha*) maximum were possessing *Vata Pitta prakriti*. Both *Shatavaryadi Yoga* and *Vajeeekarana Ghrita* were found to be useful in the management of *Ksheena Shukra*. Sperm Count, Motility, Volume, Viscosity, pH, Liquefaction Time and all other different sexual parameters showed improvement therapeutically with both *yogas*. On comparison, *Shatavaryadi Yoga* was found to be more palatable, cost effective and more effective than *Vajeeekarana Ghrita* after analyzing the result therapeutically and statistically.

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