



## Research Article

www.ijrap.net



### ROLE OF VIRECHANA KARMA IN INCREASING SPERM COUNT IN THE CASE OF OLIGOZOOSPERMIA: AN OPEN LABELLED CLINICAL TRIAL

Jitendra Varsakiya <sup>1\*</sup>, Mandip Goyal <sup>2</sup>, Bhabatosh Debbarma <sup>2</sup>

<sup>1</sup>Ph.D Scholar, Department of Kayachikitsa, I.P.G.T & RA, Gujarat Ayurved University, Jamnagar, Gujarat, India

<sup>2</sup>Associate Professor, Department of Kayachikitsa, IPGT & RA, Gujarat Ayurved University, Jamnagar, Gujarat, India

<sup>3</sup>M.D Scholar, Department of Kayachikitsa, I.P.G.T & RA, Gujarat Ayurved University, Jamnagar, Gujarat, India

Received on: 24/03/17 Accepted on: 08/05/17

#### \*Corresponding author

E-mail: jeet12989@gmail.com

DOI: 10.7897/2277-4343.08298

#### ABSTRACT

Most authorities define patients as infertile if they have been unable to achieve a pregnancy after one year of unprotected intercourse. The fact is, among 60% of all couples experiencing infertility, a male factor is involved. In approximately 40 % of cases in the male alone and in another 20% both male and female are abnormal. Oligozoospermia refers to semen with a low concentration of sperm and is a common finding in male infertility. There is no possibility of such recurrence by Virechana Procedure. In addition, it is said that Virechana enhances the quality level of Shukra (Semen). For the clinical study, 40 male patients suffering from the primary or secondary infertility for more than one year and having sperm count less than 15 million/ml were selected irrespective of religion, caste and the status of seminal parameters was compared before and after Virechana procedure. Statistical analysis of the obtained data revealed that performing of Virechana provided increase 8.68 million/ml which was increased to 26.53 million /ml after completion of Virechana procedure with 72.50% increase in total which was statistically highly significant. Abnormal form of sperm decreased by 20.74% and the 24.08% increase in serum LH level was reported which was also statistically highly significant. This indicates that performing of Virechana alone can provide significant increase in total sperm count.

**Keywords:** Ksheena Shukra, Oligozoospermia, Total sperm count, Virechana Karma

#### INTRODUCTION

Today man has achieved tremendous progress in every aspect. Society has become broad minded, and yet there is no change in the approach towards with the couples without child. Infertility is defined as the inability to conceive even after one year of intercourse without contraception<sup>1</sup>.

It is a distressing problem for 10-15% of the population, with the incidence increasing over the years. Cause in with the male partner in almost half of the couples. A recent study by Carlson (1992)<sup>2</sup> has indicated a decrease in sperm density over the past fifty years<sup>3</sup>.

Out of these in about 30% to 40%, the cause is unexplained and in the rest of the cases critical illness, malnutrition, genetic abnormalities, pollution, and also side effects of some medicines, hormones and chemicals are responsible. In short, it is not the number but the quality of the sperms which matters in fertility. As per the WHO guidelines<sup>4</sup>, a semen report with a count less than 15 million/ml is an abnormal condition (oligozoospermia).

Samshodhana (cleansing procedures) is one of the important therapies of Ayurveda which deals mainly with elimination of the aggravated Doshas from the body. These Doshas (toxins and waste material) should be eliminated from natural as well as the nearest root of the body.

It has been mentioned in text that for permanent and prolonged effect of drugs, proper Shodhana is must especially in the case of Rasayana (Rejuvenate) and Vajikarana (Aphrodisiac) treatment<sup>5</sup>. Hence, all the classics of Ayurveda advocates the use

of Shodhana (cleansing procedures) prior to Shamana therapy especially Rasayana (Rejuvenate) and Vajikarana (Aphrodisiac) therapies. Shodhana (cleansing procedures) therapy not only increases the bioavailability of the drug, but also cures the ailments. Shodhana (cleansing procedures) procedures open the occluded channels in the body and this may enhance the therapeutic efficacy of the drug<sup>6</sup>. Also, it is reported that Virechana enhances the quality level of Shukra(Semen)<sup>7</sup>.

#### Aims & objectives

To evaluate the efficacy of Virechana Karma on seminal parameter in the cases of oligozoospermia (Ksheena Shukra).

#### MATERIALS AND METHODS

##### Selection of subjects

For the clinical study, 40 male patients having sperm count less than 15 million/ml were registered after taking their consent and were subjected to routine haematological, biochemical and urine examination to rule out any major illness suffering from primary or secondary infertility for more than one year were selected irrespective of religion, caste from the O.P.D of Kayachikitsa Department or referred from SRPT Department of I.P.G.T.& R.A. hospital, Jamnagar, and were subjected to semen analysis. Thereafter detailed semenogram along with biomarkers S.FSH, S. LH, and, S. Testosterone was also done in pathology and biochemical laboratory of IPGT & RA Hospital, Jamnagar. A detailed clinical research Performa was prepared incorporating all the points of history taking, physical examination and assessment of the treatment. Before recruitment of subjects in present clinical trial, approval from the Institutional ethics committee was taken. Ethical clearance was obtained from Institutional Ethics Committee of Institute for Post Graduate

Teaching and Research in Ayurveda, Gujarat Ayurved University, Jamnagar – 361008; Vide Ref- PGT/7/-A/2013-14/1767, Dated:10/9/2013. Study has also been registered in CTRI (Clinical Trials Registry- India) (CTRI: www.ctri.nic.in) vide CTRI/REF/2014/01/006207.

### **Inclusion and Exclusion criteria**

For this study, male Patient of age between 20-50 years having Sperm count <15 million/ml (according to WHO-2010) and patient with clinical presentation of Ksheena shukra (Oligozoospermia) i.e. Daurbalya (Weakness), Shukra Avisarga (Unable to ejaculate semen), Pandu etc were selected. Also, patient was assessed for eligibility for Virechana.

Patient of Age below 21 and above 50 years and having Sperm count >15 million/ml, azoospermia and aspermia, suffering from varicocele, accessory sex gland infection, sexually transmitted diseases, severe systemic diseases etc. Genetic disorders like Klinefelter's syndrome, taking treatment for major psychiatric illness, History of previous medications and trauma leading to oligozoospermia were excluded from the study. Also, Patient Ayogya (not able to) for Virechana were not included in the study.

### **Laboratory Investigation**

S.FSH, LH, S.testosterone were done as a biomarkers before and after the treatment in selected patients. These tests were performed only in 20 patients (10 patients of each group) due to financial restrictions. Routine haematological and urine examination was carried out to assess the status of the patient and to exclude other pathologies. These investigations were done before and after the treatment. In suspected cases USG was done to rule out hydrocele, vericocele and other pathologies.

**Semen Analysis:** Was done on registering the patient which was taking as baseline, thereafter it has repeated after Samsarjana Karma (diet therapy).

### **Collection of semen sample**

Sexual abstinence of 3—5 days was strictly followed in collection of sample in the study to avoid natural fluctuation in semen parameters with duration.

### **Method of virechana karma**

All the registered patients were given Virechana. For this purpose, after the patient qualified for inclusion criteria and gave consent for the Virechana, for the first 3 days, for Deepana and Pachana, 2gm of Trikatu Churna was administered twice in a day with Luke warm water after meal. On 3<sup>rd</sup> day, after assessing the status of the patient, plain ghee in the dose of 40ml was given, early morning on empty stomach with Luke warm water and was observed for Sneha Jeerna Lakshana and accordingly for next 5 to 7 days, the dose of ghee was given in increased pattern till the patient achieve proper Snehana features. After completion of Snehana for the next 3 days whole body massage and fomentation with Bala Taila and Vaspaswedana was done twice daily. During all this period, patient was kept on normal diet with precautions, to avoid excessive oil or heavy food items. On the day of Virechana after whole body massage and fomentation in the morning Virechana Yoga of Triphaladi Kwatha was given. For the preparation of Triphaladi Kwatha, 50gm of course powder of Triphala and 25gm of Trivritta was taken. To this 4-time water was added and boiled until it was reduced to one fourth. To this prepared Kwatha, 2-10 gms of Danti powder was

added taking into consideration of Koshtha of the patient. During Virechan the vital of the patients and details of Vega/ Upvega are recorded.

Thereafter, according to the type of Shuddhi at end of Virechana 3, 5 & 7 days of dietary regimen was followed which included of Manda (barley water), Peya(thin gruel), Vilepi(thick gruel), Yusha(Seasoned vegetable juice) in a sequential pattern.

### **Assessment criteria<sup>8</sup>**

The scoring pattern prepared by **Mehra and Singh, 1995** was adopted with slight modifications for the assessment of the effect of therapies on sexual parameters (Table 1)

For the purpose of effect on semen parameters, the semen status at base line was compared with semen reports collected and analysed after the Virechana Karma. Similarly S. FSH, S.LH and S. Testosterone were analysed with baseline and endpoint score which was done after completion of Samsarjana Karma

### **Data presentation Statistical analysis**

General data was subjected to suitable statistical analysis such as wilcoxon Signed Rank test for non parametric paired data, unpaired t-test for quantitative unpaired data.

After preparing the master chart of all the required data in Microsoft excel work sheet, statistical calculations were made with the help of Sigma stat 3.5 software and in stat 3 software. The results were interpreted as significant  $p < 0.05$ , highly significant  $p < 0.01$ , very highly Significant  $p < 0.001$ , insignificant  $p > 0.05$ .

Considering the relief in major symptoms and improvement in the quantity and quality of semen, the subjects were divided into groups 0% - improvement as no change, < 25 % - improvement as mild positive response, 26 -50 % - improvement as moderate positive response, 51- 75% - improvement as marked positive response, 75% -100%- improvement as excellent response to assess the total efficacy of each therapy.

### **Details regarding Virechana karma**

In 40 registered patients of the present clinical trial, Virechana Karma was performed. This data shows that maximum i.e. 27(67.5%) patients required 5 days for Snehapana, followed by 10 (25%) patients who required Snehana 7 days and 3 (7.5%) patients who required 6 days for achieving Samyaka Snehapana Lakshana. (Table 2) Data observed during trial reveals that Snehodvega (Aversion of Sneha) was reported in 36 (90%) patients, followed by Twaka Snigdhta (Moistening of Skin) and Adhastad Sneha Darshana (Passing of Sneha in stool) in 26 (65%) and 10(25%) patients respectively during Snehapana. (Table 3) Among the patients registered for the present study, 92.5% achieved Madhyama Shuddhi, 5% of patients Pravara Shuddhi and remaining 2.5 % patients got Avara Shuddhi. (Table 4). Among the 40 patients undergone Virechana, shows that 82.5 % patients had Agnidipti, followed by Laghuta in 75% and Indriya Prasada in 67.5% patients. Vatanulomana was observed in 30% of the patients after the completion of Virechana procedure day. (Table 5) The overall review of the collected data shows that, 240gm of average Sneha was administered in patients, after administration of Virechana Yoga, average time of 48 minutes was taken to initiate the first Vega of Virechana. As maximum patients had Madhyama type of Shuddhi, average of 18.69 Vega was reported for Virechan Karma. On average, 8 hours and 8 minutes were taken to complete the Virechan Karma. (Table 6).

**Table 1: Scoring pattern adopted for sexual parameters**

Symptoms	Grade	Score
<b>Sexual Desire</b>	No desire at all	3
	Lack of Desire	2
	Desire only in demand of partner	1
	Self and partner normal desire	0
<b>Erectile function</b>	No erection or swelling without any methods	5
	Erection with artificial method	4
	Very slight swelling but unable to penetrate	3
	Some swelling, able to penetrate	2
	Erection with occasional failure	1
	Full swelling whenever desire	0
<b>Ejaculatory function</b>	On mere thoughts / slight or no ej. at all	4
	During foreplay Before penetration	3
	During sexual intercourse < 30 sec / at least 1-5 pelvic thrusts	2
	During sexual intercourse < 60 sec / at least 5-10 pelvic thrusts	1
	During sexual intercourse >60 sec / at least >10 pelvic thrusts	0
<b>Overall Satisfaction</b>	No satisfaction after every act	4
	Satisfaction in 25% act	3
	Satisfaction in 50% act	2
	Satisfaction in 75% act	1
	Satisfaction after every act	0
<b>Frequency of coitus</b>	0/ week	3
	1 – 2 / week	2
	3 – 4 / week	1
	> 4 / week	0

**Scoring for Associated symptoms**

<b>Daurbalya</b>	Can't do any work	3
	Weakness and work affected	2
	Weakness but routine work not affected Slight weakness	1
	No weakness	0
<b>Mukha shosha</b>	Dryness not relieved by anything	2
	Dryness relieved by anything putting in mouth	1
	No dryness of mouth	0

**Table 2: Distribution of Patients according days required for Samyaka Snehana of 40 patients of Ksheena Shukra (oligozoospermia)**

Samyak Snehana Kala (days)	Total n=40	%
5 <sup>th</sup>	27	67.5
6 <sup>th</sup>	3	7.5
7 <sup>th</sup>	10	25

**Table 3: Distribution of Patients according to features Samyaka Snigdha Lakshana**

Feature of Samyaka Snigdha	Total	%
Snehodvega	36	90
Tvak Snigdhata	26	65
Adhastad Sneha Darshana	10	25

**Table 4: Distribution of Patients according to type of Shuddhi**

Type of Shudhi	Total n=40	%
Pravara Shuddhi	2	5
Madhyama Shuddui	37	92.5
Avara Shuddhi	1	2.5

**Table 5: Samyak Virechana Lakshana observed in 40 Patient of Ksheena Shukra (oligozoospermia)**

Samyak Virechana Lakshana	Total n=40	%
Indriyaprasad (happiness of mind)	27	67.5
Laghuta (Light feeling)	30	75
Vatanulomana	15	30
Agnidipti (Increase appetite)	33	82.5

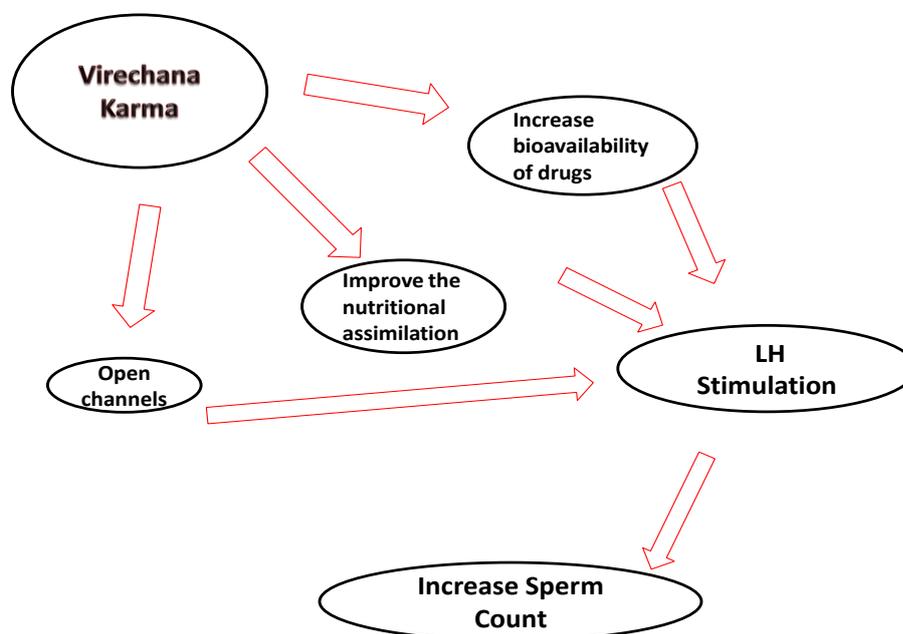
**Table 6: Virechana Karma overview**

Average for Sneha	240gm
Average time taken for the beginning of first Vega	48 minutes
Average no of Vega	18.69
Average total time taken for Virechana Karma	8 hours and 8 minutes
Average days of Samsarjana karma	5.38 days

**Table 7: Effect of Virechana Karma of 38 patient of oligozoospermia**

Group	Mean Value Million/ml		Diff.	%	Paired 't' test				Significance
	BT	AS			S.D. (±)	S.E. (±)	't'	P	
After Virechana Sperm count	8.68	26.53	17.84	72.50	15.22	3.49	5.109	<0.001	HS
Abnormal form of sperm	34.42	20.32	14.11	↓20.74	23.19	5.32	2.65	0.016	S
S. LH ( ng/dl)	4.16	5.57	1.41	24.08↑	1.04	0.35	4.09	0.004	S

BT- Before treatment, AS- After Samsarjana Karma S.D- Standard deviation, S.E Standard error, ↑increase, ↓ decrease



**Figure 1: Probable mode of action of virechan karma in oligozoospermia**

**RESULTS AND DISCUSSION**

Analysis of effect of Virechana procedure on Semen parameter should that mean Sperm before performing Virechana Karma was 8.68 million/ml which was increased to 26.53 million /ml after completion of Virechana procedure with 72.50% increase. Similarly, 24.08 % increase was found on S. LH levels. Both of this finding were statistically significant. Further, abnormal sperm form was also reduced by 20.74% which also statistically significant. (Table 7)

**Probable mode of action of Virechana karma**

Vajikarana drugs (Aphrodisiac recipes) should be administered after purifying the body<sup>14</sup> i.e. proper Shodhana (cleansing procedures) either by Vamana or Virechana. Shodhana (cleansing procedures) therapy not only increases the bio-availability of the drug, but also cures the ailments. The role of Shodhana (cleansing procedures) procedures as preoperative

regimens before the administration of medicine is adequately substantiated. By these therapies not the occluded channels in the body are cleared off and this enhance the quality and quantity of Shukra. These therapies have been kept in supreme veneration by the classical authorities ameliorating different verities of Shukra Dushti. Statistically significant increase in sperm count was found after the completion of Virechana Karma and hence, it is clear from the generated data that Virechana enhance the level of Shukra definitely. Further, Virechana Karma increases bio-availability of drugs by opening channels and improves the nutritional assimilation which may lead to increase S.LH level. (Figure 1)

**CONCLUSION**

It can be concluded from present clinical trial that Virechana Karma should be performed before administration of Vajikarana drugs and better and early changes in total sperm count can be achieved by Virechana Karma. Significant result in sperm count

and reduce in abnormal form of sperm along with significant effect S.LH hormone level proves the efficacy of Virechana Karma in oligozoospermia. Though the exact mode of action of Virechana Karma on the increasing the quality of semen is not known but further Pharmacological and clinical study provide a lead for it.

#### REFERENCES

1. <http://www.charaka.org/oligospermia-low-sperm-count/> accessed date: 17/2/20017.
2. Carlsen E., Giwerman A., Keiding N. et al. –Evidence for decreasing quality of semen during past 50 years. *BMJ*;305: 609, 1992
3. Greenberg et al. (1978)3. Greenberg S., Lipshultz L., Wein A. – Experience with 425 subfertile male patients. *J. Urol.*; 119: 507, 1978.
4. World Health Organisation. WHO Laboratory Manual for the examination of human and sero-cervical mucus interaction. 2<sup>nd</sup> Edn., Cambridge, The Press Syndicate of the University of Cambridge, 1987.
5. Vd.Jadavaji Trikamaji Acharya, Agnivesha 'Charaka Samhita', revised by Charaka and Dridhabala with 'Ayurveda Deepika' commentary by Chakrapanidatta, Chaukhambha Surabharati Publications, Varanasi -221 001, (India), reprint 2008, Chikitsa Sthana, Adhyaya-1/8.pg no.304.
6. Vd.Jadavaji Trikamaji Acharya, Agnivesha , 'Charaka Samhita', revised by Charaka and Dridhabala with 'Ayurveda Deepika' commentary,by Chakrapanidatta, , Chaukhambha Surabharati Publications,Varanasi -221 001, (India), reprint 2008, Chikitsa sthana 2- 1:50, 51, pg.no- 392
7. Pandit Hemaraj Sharma Vriddha JivakaTantra, Kashyapa Samhita, Vidhotini commentary, Pandit Hemaraj Sharma.Chaukhmbha Sanskrita Sansthan, Varanasi.edited reprinted 2013. Sutra Sthana Adhyaya-2,page no 7.
8. B L Mehra, Studies on Klaihya (male sexual dysfunction) and its management with Vājīkarana, Dept. of Kayachikitsa, I.P.G.T. & R.A., G.A.U., Jamnagar, 1996.

#### Cite this article as:

Jitendra Varsakiya *et al.* Role of virechana karma in increasing sperm count in the case of oligozoospermia: An open labelled clinical trial. *Int. J. Res. Ayurveda Pharm.* 2017;8(Suppl 2):134-138 <http://dx.doi.org/10.7897/2277-4343.08298>

Source of support: Nil, Conflict of interest: None Declared

Disclaimer: IJRAP is solely owned by Moksha Publishing House - A non-profit publishing house, dedicated to publish quality research, while every effort has been taken to verify the accuracy of the content published in our Journal. IJRAP cannot accept any responsibility or liability for the site content and articles published. The views expressed in articles by our contributing authors are not necessarily those of IJRAP editor or editorial board members.