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MANAGEMENT OF OLIGOASTHENOZOOSPERMIA: AN OBSERVATIONAL CLINICAL STUDY

[1*]Dr. Sanjay Gupta and [2*]Prof. Dr. Swapnil S. Singhai

[1*]Associate Professor, Department of Panchakarma, Uttarakhand Ayurved University, Gurukul Campus, Haridwar, India.

[2]Professor, Department of Kayachikitsa, Uttarakhand Ayurved University, Gurukul Campus, Haridwar, India.

***Corresponding Author: Dr. Sanjay Gupta**

Associate Professor, Department of Panchakarma, Uttarakhand Ayurved University, Gurukul Campus, Haridwar, India.

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ABSTRACT

The purpose of this clinical study is to determine the *Panchakarma* therapy an effective and safe treatment option that can enhance the speed and degree of recovery, minimal risk associated with *Panchakarma* and high patient acceptance in preference to other methods of treatment of Oligoasthenozoospermia. The study was performed with some herbal drugs with low toxicity profile and their effects were evaluated in 10 patients diagnosed as Oligoasthenozoospermia of any socio-economic status, age group of 21-50 years of all ethnic origins. The trial was designed as a thirty days *Panchakarma* therapy with *Baladi Yapana Basti and Gokshuradi Vajikaran Yoga.* The Oligozoospermic grade indicates that *Basti* therapy was more effective at both primary level as well as particular stages of spermatogenesis. Therapy provided better improvement in sperm count and motility, increased sexual desire capacity, frequency and duration. Therapy was found effective in raise sperm count, increased Rapid Linear Progressive sperm motility, Slow Liner Progressive Sperm motility and significant decrease in Non Progressive mean of sperm. All the other parameters like viability, liquefaction time were also improved by the treatment. Total abnormal forms; head, body and tail abnormality of sperms were decreased in relatively short periods of time. Patients with Oligoasthenozoospermia may often turn to *Panchakarma* therapy with the hope of improving their quality of sexual life. The outcome revealed a better therapeutic efficacy of *Baladi Yapan Basti* and *Gokshuradi Vajikaran Yoga* in Oligoasthenozoospermia.

KEYWORDS: *Baladi Yapan Basti*, Oligoasthenozoospermia, *Gokshuradi Vajikaran Yoga.*

INTRODUCTION

Nature always doing better for all living being; but life of modern man is far removed from the rules and nature. In fact, there has been a drastic change in his day by day activities including life style, food habits, sexual life, meditation, environmental pollution, industrial and occupational hazards. Due to all these factors infertility is increasing day by day. WHO (1976) has estimated incidence of global infertility as 16.7%. The contribution of male factor alone to this total infertility is reported as 26.2% to 46.6%.[1]

Since the beginning of recorded history, the human race has placed a great emphasis on fertility. Infertility seldom causes any physical debility, but its severity affects the couples psychological harmony, sexual life and social function. The couple desiring a child but unable to conceive feels demeaned, deprived and bitter.

Male infertility can be defined as an inability to induce conception due to defect in spermatic functions. The male partner carrying pathological semen reports include low sperm count, motility, abnormal forms and sperm functional tests and whose female partners have been ruled out for the possible etiological factors of infertility may be diagnosed under male infertility.

Male infertility is associated with male factor in which conditions viz. Oligozoospermia, high Viscosity of semen, low sperm motility and low volume semen are generally noted. The Oligozoospermia means the sperm count is less than 40 million/ml. and Asthenozoospermia the motility of spermatozoa is lower than 50% of active motile sperms (WHO1992).

In Oligoasthenozoospermia both less number of sperm and low motility are found. For successful fertility sperm count should be 40 million/ ml or more, but studies have shown that if sperm cells are having good progressive motility besides of less sperm count (less than 10 million/ml), there was a reasonable, probability of conception. That's why after keeping importance of sperm motility with sperm count the disease Oligoasthenozoospermia is selected, which was found as the main etiology of male infertility.

Treatment of Oligoasthenozoospermia should be aimed at to increase sperm count and motility. Considering all these points the present study *Baladi Yapan Basti*[2] and *Gokshuradi Vajikaran Yoga*[3] has been selected.

Aims and objectives

1) To study the semenogram pattern in the patients of Oligoasthenozoospermia

2) To study the effect of *Baladi Yapan Basti* and *Gokshuradi Vajikaraṇ Yoga* with their combined regimen in the patient of Oligoasthenozoospermia.

METHODOLOGY OF THE RESEARCH WORK

Methods of collection of Data: A clinical study of ten patients attending the OPD, fulfilled the criteria of Oligoasthenozoospermia were selected for the study.

Inclusion Criteria

- Patients with classical features of Oligoasthenozoospermia.
- The W.H.O. criteria (1992) for semenogram.

Exclusion Criteria

- Patients with uncontrolled metabolic and other systemic disorders.
- Psychiatric illness.

Diagnostic Criteria

An elaborate proforma incorporating the points of family history, personal history, previous treatment, history of marital status, period of infertility was prepared.

Research Design

It was an observational clinical study, patients was assigned into single group consisting of 10 patients excluding dropouts with pre, mid and post test study design.

Treatment Protocol

The patients were given *Panchakarma therapy* which includes local *Abhyanga* of *Bala Taila* and *Swedana* for *15 minutes.* Twentyone *Baladi Yapan Basti* containing decoction of *Bala, Atibala, Apamarg, Atmagupta, Yava* and *Madanadikalka, Saindhava, Tila taila, Go-ghrita, Guda* and *Ksheer* in the dose of 600 ml with 3 days interval in 3 terms. *Gokshuradi Vajikaraṇ Yoga* containing *Kokilaksha, Masha, Gokharu, Atmagupta* and *Shatavari* in the dose of 5 gram thrice daily with *Anupana* of water in the form of granules. Total duration of treatment was one month.

Preparation of *Baladi Yapan Basti*

The decoction of *Baladi Yavkut* was prepared, 450 ml of milk was added, boiled then 15 grams of *Guda* and *Kalka* each were mixed for proper disintegration. 5 grams of *Saindhava* was mixed, 50 ml of *Tila Taila* and *Go-ghrita* were also added to it. The total quantity of 600 ml of *Baladi Yapan Basti* was prepared for the administration.

Criteria for Assessment

The initial assessment was done before the treatment and the post assessment was done after 30 days. The assessment of therapies was made by adopting two parameters.

1) Semen Analysis

2) Sexual Health Scoring

1) Semen Analysis – As per the recommendations of WHO (1992). [4]

Collection of sample

Masturbation was advised to all patients for method of collection. The sample was collected between 9-10 a.m. in case of coitus interrupts and it was delivered to laboratory within 20 minutes of the collection of semen.

Examination of Semen

(1) Volume: Sample was measured by calibrated test tube and volume of semen was noted.

(2) pH: pH was measured by comparing the standards pH paper colour changes

(3) Viscosity: By lifting the glass rod from semen in test tube and on the basis of length of thread formation, the viscosity was scored as 0, 1, 2, 3.

(4) Liquefaction time: Liquefaction time (T) = T2 - T1 (T2 = Time observed till semen sample liquefies, T1= Time at the semen collection)

(5) Motility: The spermatozoa were scanned systematically for 4 types of motility i.e. rapidly linear progressive, sluggishly linear progressive, non-progressive and immotile.

(6) Viability: For counting viable sperms eosin stain was used in laboratory.

(7) Amorphus matter: Pus cells, WBC, spermatids were collected and expressed percentages.

(8) Gradation of Sperm count

Severe Oligozoospermia < 5 mill / ml.
Moderate Oligozoospermia > 5 and < 20 mill / ml
Mild Oligozoospermia > 20 and < 40 mill / ml
Normal > 40 mill / ml

(9) Morphological evaluation: Abnormal spermatozoa were counted like total abnormal forms and abnormality in head, mid piece, tail and headless spermatozoa.

(10) Agglutination: Agglutinated and un-agglutinated sperms were counted and then percentage of agglutination was calculated.

2) Sexual Health Scoring

The second objective parameter of assessment is sexual health parameters like sexual desire, erection, rigidity and orgasm. The scoring system developed by Mehra and Singh (1995) was adopted. [5]

Sexual Desire	**SCORE**
No desire at all	0
Lack of desire	1
Desire but no activity	2
Desire only on demand of the partner	3
Normal desire	4
Excess desire	5
Erection	
No erection by any methods	0
Erection with artificial methods	1
Erection but unable to penetrate	2
Initial difficulty but able to penetrate	3
Erection with occasional failure	4
Erection when ever desired	5
Rigidity	
Unable to maintain erection or unable to continue sexual act	0
Some case in erection but able to continue	1
Sexual act to maintain erection and continue sexual act	2
Ejaculation	
No ejaculation at all	0
Delayed ejaculation without orgasm	1
Ejaculation before penetration	2
Ejaculation with penetration but early	3
Discharge ejaculation with own satisfaction	4
Ejaculation with own and partner's satisfaction	5
Orgasm	
No ejaculation at all	0
Lack of enjoyment in most of occasions	1
Enjoyment in 25% of sexual encounters	2
Enjoyment in 50% of sexual act	3
Enjoyment in 75% of sexual act	4
Enjoyment in every sex act	5

Overall Assessment of therapies

The overall assessment was made by assessing both the sexual and seminal parameters for one month as conceived, complete remission, markedly improved, moderately improved, improved, unchanged and deteriorate after completion of the treatment.

OBSERVATION

The effect of *Baladi Yapan Basti* and *Gokshuradi Vajikaran Yoga* was studied in 10 patients suffering from Oligoasthenozoospermia fulfilling the inclusion criteria. The observations were as follows: Maximum numbers of patients were obtained in the age group of 21-30 years that is 50% followed by 40% patients in the age group of 31-40 years and 10% patients in the age group of 41-50 years. Most of the patients (60%) were businessmen and the maximum numbers of patients (60%) were from middle income group and 20% each in lower and high income group. Most of the patients (60%) were vegetarian.

Effect of Therapy

The effect of therapy on all subjective and objected parameters has been documented in tables (No.1-3). The effect of test drug on semen analysis is showing a significant result in liquefaction time, volume, sperm viability, sperm count, RLP, SLP, NP and total abnormality after completion of one month treatment. Sexual health scoring showed a significant result in all the objective parameters. In sperm count and motility the drug showed a remarkably high percentage improvement above 50%.

Overall Effect of Therapy

The overall assessment considering all the parameters outlined in the assessment criteria, the final result shows that 50% of patients had complete remission and 20% had markedly improved. 10% patients able to impregnate their wives (conceived) and 10% patients were moderately improved and remain unchanged after completion of one month treatment. (Table No.4) There was no side effect observed during the treatment as well as after the completion of treatment.

Table 1: Effect of treatment on Semen Analysis of 10 patients of Oligoasthenozoospermia

Semen Analysis	Mean		%	SD	SE	't'	P
	BT	AT					
Liquefaction time	26.00	20.00	23.07	6.582	2.083	2.88	<0.05
Volume	2.85	2.90	32.75	0.896	0.284	3.35	<0.01
pH	7.26	7.38	1.60	0.193	0.061	1.96	>0.05
Sperm Viability	54.40	63.70	14.60	6.129	1.939	4.79	<0.001
Sperm count	26.70	46.50	42.58	15.960	4.965	3.98	<0.01
RLP	29.00	37.60	22.87	7.058	2.233	3.85	<0.01
SLP	20.20	26.00	22.30	6.388	2.005	2.89	<0.05
NP	38.80	28.40	26.80	8.540	2.702	3.84	<0.01
Total Abnormality	16.90	12.20	27.80	3.335	1.005	4.45	<0.01
i) Head	8.30	6.60	20.48	1.703	0.534	3.15	<0.05
ii) Body	3.70	2.50	32.43	1.316	0.417	2.88	<0.05
iii) Tail	4.90	2.90	40.82	2.260	0.715	2.80	<0.05

Table 2: Effect of treatment on Sexual Health Scoring of 10 patients of Oligoasthenozoospermia

Sexual Health Scoring	Mean		%	SD	SE	't'	P
	BT	AT					
Erectile Function	0.40	1.00	60	0.516	0.163	4.28	<0.01
Orgasmic function	0.10	0.50	80	0.516	0.163	2.44	<0.05
Sexual Desire	0.10	0.50	80	0.516	0.163	2.44	<0.05
Intercourse satisfaction	1.00	1.90	47.30	0.316	0.100	9.00	<0.001
Ejaculatory function	0.60	1.10	45.45	0.527	0.166	2.99	<0.05
Frequency of coitus/ week	2.60	3.60	27.77	0.666	0.211	4.76	<0.01
Duration of coitus	6.50	9.90	34.34	1.429	0.453	7.500	<0.001

Table 3: Effect of treatment on Gradation of Sperm count and motility

Grade	Before Treatment		After Treatment	
	No. of Patients	%	No. of Patients	%
Oligozoospermia				
Severe (< 5 mill / ml)	1	10	1	10
Moderate (>5 and <20 mill/ml)	1	10	0	0
Mild (>20 and <40 mill/ml)	8	80	4	40
Normal (>40 mill/ml)	0	0	5	50
Asthenozoospermia				
Severe (<10%)	2	20	1	10
Moderate (>10%-30%)	0	0	1	10
Mild (>30%-50%)	8	80	1	10
Normal (>50%)	0	0	7	70

Table 4: Overall effect of treatment in 10 patients of Oligoasthenozoospermia

Category	Number of Patients	Percentage
Conceived	1	10%
Complete remission	5	50%
Markedly improved	2	20%
Moderately improved	1	10%
Improved	0	0
Unchanged	1	10%
Deteriorated	0	0

DISCUSSION

Male factor of infertility was mainly due to defective spermatogenesis and also due to inadequate quality of semen in both morphology and motility (Insler and Lunenfeld, 1993). In Oligoasthenozoospermia both less number of sperm and low motility are found. Treatment of Oligoasthenozoospermia should be aimed at to increase sperm count and motility.

Baladi Yapan Basti contains *Bala mula, Atibala mula, Apamarga mula, Kaunch beeja* and *Yava*. The *Kalka* contains drugs like *Madana Phala, Pippali* and

Yastimadhu. The other conventional drugs are *Ksheera, Guda, Go-Ghrit* and *Tila taila*. It is especially indicated for *Ksheena Shukra*. The compound *Gokshuradi Vajikaraṇ Yoga* contains *Gokshura, Kokilaksha, Atmagupta, Masha, Shatavari Churna* processed with *Bhavana* of *Amalaki Swarasa*. It is indicated for the management of extremely low level of *Shukra*.

Madhura rasa, Guru, Snigdha Guṇas, Sheeta Virya, Madhur Vipaka, Balya, Vrishya and *Shukrala* action of *Gokshuradi Vajikaran Yoga* provided better improvement in sperm count and motility. Due to improved status of health and as well as action of ingredients like *Kamottejaka, Harsh* etc. showed increased sexual desire, erectile function, ejaculatory function, frequency, duration of coitus, getting orgasm or sexual satisfaction.

Clinical observational study was found effective in raise sperm count by 42.58% provided better results. Treatment also increased RLP motility 22.87%, SLP motility 22.30% along with decrease in NP 26.80% was found better in enhancing the spermatozoa motility.

All the other parameters like viability, liquefaction time were also improved by the treatment. Total abnormal forms, head, body and tail abnormality was decreased in relatively short periods of time. *Baladi Yapan Basti* and *Gokshuradi Vajikaran Yoga* are very effective, safe and good result yielding for Oligoasthenozoospermia as they are having *Shukra Janaka, Shukra vardhaka* and *Shukra Shodhaka* properties.[6] The drugs used in these treatments are easily available, cheaper and with no side and adverse effect. The outcome revealed a better therapeutic efficacy of *Baladi Yapan Basti* and *Gokshuradi Vajikaran Yoga* in Oligoasthenozoospermia.

CONCLUSION

The clinical study presented suggests that gains are made in sperm count and motility along with other sexual parameters. It also suggests that *Panchakarma* therapy offer a cure for Oligoasthenozoospermia and help the patients with the hope of improving their quality of sexual life. Further studies using a rigorous scientific method are needed to determine the safety and efficacy of therapy.

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