Research Article

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A CLINICAL STUDY TO EVALUATE THE ROLE OF CHURNA RATNAM AND SVAGUPTADI CHURNA AND ITS EFFECT ON SEMINAL PARAMETERS

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ABSTRACT

Low sperm count (oligozoospermia) is one of the main cause of male infertility and it is correlated with Ksheena Shukra. Due to a very fast life in recent days, all schedules of human beings had changed dramatically and these changes have adverse effect on Shukra. Shukravaha srotas is a part of our body which is responsible for production of Shukra. 40 infertile males from the OPD of Kayachikitsa department of IPGT and RA selected for the study, were assessed with regards to eligibility for inclusion in the present study. The study divided into two groups Churna Ratnam and Svaguptadi Churna are the drug of choice. Both are used herb for its benefits in male sexual and general health. The study was conducted to measure the primary outcome of this study, the eligible subjects between the age of 21 and 50 years, with complain of *Ksheena Shukra* (Oligozoospermia), were randomized to receive either Churna Ratnam and Svaguptadi Churna for 60 days. Both the drugs have shown superior results in seminal parameters. Analysis of effect on sperm count showed that positive improvement was obtained in both the groups i.e. Group A 69.48% increase and Group B 27.45% increase was reported. Churna Ratnam and Svaguptadi Churna have definite role in the management of Ksheena Shukra, But Churna Ratnam is comparatively better than Svaguptadi Churna.

Keywords: Ksheena Shukra, Oligozoospermia, Churna Ratnam, Svaguptadi Churna

INTRODUCTION

Infertility is a problem of global proportions, affecting on average 8-12 percent of couples worldwide[1]. The adverse effect on srotas generates a condition called Shukra Kshaya. Ksheena Shukra is one of the eight types of Shukradushti mentioned in the classics and is a Vata Pittaja Vyadhi[2]. Male infertility accounts for about 50% of human infertility. In 40% to 50% of infertile males, the aetiology is unknown. In Sushruta samhita, shukra is described as Saumya Dravyas are considered as semen promoters. Sweet and oily drugs are useful in males because they promote the origine of semen. Vajikaran has remained one of the major healthcare segment from years, because this is said to enhance not only sexual performance, but also improves the quality of the off-springs.[3] Conventional medicine has discovered few chemicals in this segment, but these agents are associated with many unwanted and serious adverse effects. Therefore, traditional medicines like Ayurveda medicines have been the mainstay in this segment. Vajikaran drugs like churna ratnam which have ingredients like Gokshura, Bala, Abhrak etc. and Svaguptadi Churna having ingredients like Ashvagandha, Vidari etc. Herb is used for its versatile Shukrala, Rasayana and Balya properties. Experimental studies reaffirm its role in sexual behaviour, spermatogenic activity. Clinical trials also confirm its positive impact on sexual behaviour, sperm count, and so on.

MATERIAL AND METHODS

40 infertile males had a sperm count of 1-15 million/ml, total motility of 5% - 30% were assessed with regards to eligibility for inclusion in the present study. The age group between 21 to 50 years with semen factor infertility were enrolled after obtaining informed written consent in the OPD of IPGT & RA hospital, Jamnagar. All men had a history of regular sexual intercourse over a one year period with a gynaecological normal female partner.

Patients suffering from varicocele, accessory sex gland infection, sexually transmitted diseases, severe systemic diseases etc. were excluded. Patient taking treatment for major psychiatric illness, history of previous medications and trauma leading to oligozoospermia was also excluded from the study.

Study is registered in CTRI with the reference number-REF/2016/01/010525 and study is approved by institutional ethics committee withe letter no.PGT/7/-A/ethics/2015-16/1470.

Drug Details

The details of the trial drug are as given below. (Table 1 & 2)

Randomization and Treatments

Interventional, randomized clinical trial was conducted in to two groups. The study subjects were randomized to either: (Group A) Churna Ratnam (n=20) or (Group B) Svaguptadi Churna (n=20). The study subject in Group A were administered Churna Ratnam in the form of Churna for 2 gm, twice a day, orally before food in the morning and evening with Anupana of a cup of warm milk for 60 days, whereas, in the Group B, 4 gm Svaguptadi Churna were administered, twice a day, orally before food in the morning and evening with Anupana of Madhu and Ghee.

Assessment Criteria[4]

The enrolled volunteers were assessed at baseline (day 0 visit), and then after the end of the trial, that is, the 60 days of medication, for the parameters like Sperm Count, Sperm Motility, Normal Sperm, Abnormal Sperm, Volume of Semen, S.FSH, S.LH, S. Testosterone. The values of this parameters were recorded before and after the treatment for both the groups and were analyzed by using the student's paired 't' test[5].

Data Analysis

Statistical evaluation of the data obtained was done using means, standards deviation, percentage, mean difference. Data analysis was done statistically.

RESULTS

Analysis of effect on sperm count showed that positive improvement was obtained in both the groups i.e. Group A 69.48% increase and Group B 27.45% increase was reported. When subjected to statistical analysis, these finding were statistically significant ($p<0.05$). (Table 3). Analysis of effect on sperm motility showed that Group A provided 21 % increase and Group B provided 20 % increase in sperm motility. However, this change in motility of sperm was statistically significant. (Table 4). Analysis of effect on increase in Normal Sperm showed that both the groups i.e. Group A (24.00 %) and Group B (27.00 %) provided increase in normal sperm count respectively. When subjected to statistical analysis, increase in the groups statistically significant result ($p<0.001$). (Table 5). Analysis of effect on Abnormal Sperm form that showed that these was a decrease in abnormal form 19.43% in group A and 16.73% in group B. When subjected to statistical analysis, found that these results statistically significant in both the groups ($p<0.01$). (Table 6). The 39.17% increase in semen volume was found after the completion of treatment in group A which was statistically significant. In group B 16.67% increase in semen volume was found, this increase was statistically significant (Table 7). A group provided 21.88% decrease and group B provided 14.34% increase in Serum FSH value. However, these changes reported in Serum FSH was statistically significant in group A and statistically insignificant in group B. (Table No. 8). Group A provided 17.67% increase and Group B provided 24.08% increase in serum LH. The effect provided on Serum LH in both groups was statistically significant. (Table 9). Group A provided 4.89% increase and Group B provided 1.03% increase in serum testosterone, but these changes provided in Serum Testosterone was statistically insignificant in both group. (Table 10).

Table 1: Group A: *Churna Ratnam*[6] Details

No	Drug	Latine Name	Part use	Ratio
1	Satavari	*Asparagus Racemosus* Willd	Root	1
2	Aatmagupta	*Mucuna Prurita*. Hook	Seeds	1
3	Vidari	*Pueraria Tuberosa*. DC	Tuber	1
4	Gokshur	*Tribulas Terrestris* Linn.	Panchang	1
5	Ikshurak	*Hygrophila Spinosa* T. And	Seeds	1
6	Bala	*Sida Cordifolia* Linn.	Seeds	1
7	Atibala	*Abutilon Indicum* Linn.	Root	1
8	Abhraka	Mica	Bhasma	7
9	Sarkara	Sugar cane	-	28

Table 2: Group B: *Svaguptadi Churna*[7] Details

No	Drug	Latine Name	Part use	Ratio
1	Swagupta	*Mucuna Pruriens*. Hook	Seeds	1
2	Ashvagandha	*Withania somnifera* Dunal	Root	1
3	Vidari	*Pueraria Tuberosa.DC*	Tuber	1
4	Swet jirak	*Cuminum Cyminum*. Linn.	Fruit	1
5	krushna jirak	*Carum carvi*. Linn.	Fruit	1
6	Krushna Til	*Sesamum indicum*. Linn.	Seeds	1

Table 3: Effect of trial drugs on Sperm count of 40 patient of Ksheena Shukra (oligozoospermia)

Gr.	Mean Value Million/ml		Diff.	%	Paired 't' test				Significance
	BT	AT			S.D. (±)	S.E. (±)	't'	P	
A	9.75	27.05	21.50	69.48%↑	7.68	3.84	-5.59	<0.05	S
B	21.75	31.75	10.00	27.45%↑	7.25	1.62	-6.16	<0.05	S

Gr.: Group, BT: Before Treatment, AT: After Treatment

Table 4: Effect of trial drugs on Sperm motility of 40 patients of *Ksheena Shukra* (Oligozoospermia)

Gr.	Mean Value %		Diff.	%	Paired 't' test				Significance
	BT	AT			S.D. (±)	S.E. (±)	't'	P	
A	34.00	42.75	8.75	↑21%	6.85	1.53	-5.70	<0.001	S
B	27.50	34.50	7.00	↑20%	6.56	1.46	-4.76	<0.001	S

Gr.: Group, BT: Before Treatment, AT: After Treatment

Table 5: Effect of trial drugs on Normal Sperm of 40 patient of *Ksheena Shukra* (oligozoospermia)

Gr.	Mean Value %		Diff.	%	Paired 't' test				Significance
	BT	AT			S.D. (±)	S.E. (±)	't'	P	
A	25.75	34.75	9.00	↑24.00%	6.40	1.43	-6.28	<0.001	S
B	21.75	31.75	10.00	↑27.00%	7.25	1.62	-6.16	<0.001	S

Gr.: Group, BT: Before Treatment, AT: After Treatment

Table 6: Effect of trial drugs on Abnormal Sperm form of 40 patients of *Ksheena Shukra*(oligozoospermia)

Gr.	Mean Value %		Diff.	%	Paired 't' test				Significance
	BT	AT			S.D. (±)	S.E. (±)	't'	P	
A	36.78	22.45	14.33	↓19.43	22.50	4.32	2.70	0.019	S
B	32.31	20.32	11.99	↓16.73	21.30	4.10	2.24	0.035	S

Gr.: Group, BT: Before Treatment, AT: After Treatment

Table 7: Effect of trial drugs on volume of Semen of 40 patients of *Ksheena Shukra* (oligozoospermia)

Gr.	Mean Value Ml		Diff.	%	Paired 't' test				Significance
	BT	AT			S.D. (±)	S.E. (±)	't'	P	
A	0.82	1.32	0.50	↑39.17%	0.00	0.00	-inf	<0.001	S
B	1.12	1.37	0.25	↑16.67%	0.25	0.05	-4.35	<0.001	S

Gr.: Group, BT: Before Treatment, AT: After Treatment

Table 8: Effect of trial drugs on S.FSH in 20 patients of *Ksheena Shukra* (oligozoospermia)

Gr.	Mean Value (mg/dl)		Diff.	%	Paired 't' test				Significance
	BT	AT			S.D. (±)	S.E. (±)	't'	P	
A	15.08	18.43	3.34	21.88%↑	4.54	1.43	-2.32	0.045	S
B	13.53	15.95	2.42	14.34%↑	6.54	2.07	-1.16	0.273	IS

Gr.: Group, BT: Before Treatment, AT: After Treatment

Table 9: Effect of trial drugs on S.LH in 20 patients of *Ksheena Shukra* (oligozoospermia)

Gr.	Mean Value (mg/dl)		Diff.	%	Paired 't' test				Significance
	BT	AT			S.D. (±)	S.E. (±)	't'	P	
A	5.13	6.48	1.34	17.67%↑	1.27	0.40	-3.33	0.009	S
B	4.80	6.20	1.40	24.08↑	1.24	0.39	-3.57	0.006	S

Gr.: Group, BT: Before Treatment, AT: After Treatment

Table 10: Effect of trial drug on S. testosterone of 20 patients of *Ksheena Shukra* (oligozoospermia)

Gr.	Mean Value (mg/dL)		Diff.	%	Paired 't' test				Significance
	BT	AT			S.D. (±)	S.E. (±)	't'	P	
A	563.87	590.57	27.70	4.89↑	82.21	25.99	-1.02	0.331	IS
B	563.87	572.29	8.42	1.03↑	60.07	18.99	-0.44	0.668	IS

Gr.: Group, BT: Before Treatment, AT: After Treatment

DISCUSSION

Churna Ratnam and Svaguptadi Churna both drugs are used for improving male sexual health by assessing its effect on semen, which are the nearest equivalent of Shukradhatu.

Comparative data analysis that the 'p' Value in all seminal parameters was significant in both groups. The results are encouraging and both drugs are effective in inducing the seminal parameters. All ingredients are shukrala (semen enhancing) in group A drug. All ingredients are soumya and shukra promoters. Most of the ingredients are madhura rasa predominant and pruthvi and jala mahabhut pradhan. Anupana milk is also shukrala and promotes Shukra, because milk is madhura and snigdha which is similar to shukra dhatu. In group B drug, ingredients like Krishna jirak and swet jirak are strotosodhaka and laghu gunatmak drugs, thus pacifies strotorodh janya shukrakshaya. Krishna Til having snigdha, madhur rasa pacifies vata dosha. Aatmagupta, vidari, Ashwagandha are balya, brimhan, snigdha drugs. These drugs are Agnivardhaka when given Ghrit. Ghee was used as Anupan. As per Modern science the contents of both drugs are antioxidant, anti-sterility, Aphrodisiac and increase the quality & viability of sperm.

CONCLUSION

The finding shows that the quantity and quality of Semen in a statistically significant in both groups. Comparison showed that Churn Ratnam is more effective than the Swaguptadi Churna on Semen parameters. No volunteer developed any ADR, confirming that it is safe for human use. It is concluded that the formulations studied in this study are effectively changes the seminal parameters in both group.

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